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The objective of this study was to analyze all operating factors in the relationship between libraries and industry. An investigation was made of situations which affect either library service to industry or industry service to libraries. Examined were the relationship between all types of libraries and the publishing industry, between libraries and suppliers of furniture and equipment for libraries, between libraries and their business and industrial users; business and industry support to libraries; and support to libraries from the government as a factor in both the growth of libraries and the projected relations of them with industry. A survey was made of the relationships library equipment manufacturers have with libraries and the relationships certain libraries have established with their business and industry users. Recommendations were made in these areas: (1) statistics gathering and analysis, (2) mediums of exchange for interlibrary transactions, (3) surveys of users, (4) interlibrary use codes, (5) means of support for library service to industry, (6) standards for library equipment and supplies, (7) special requirements for publications, (8) identification of publications, and (9) copyright. (CM)

LIBRARIES AND INDUSTRY

Background Study for Use by the
National Advisory Commission on Libraries

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Final Report

Project No. 88-21

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7 November 1967

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I INTRODUCTION

The National Advisory Commission on Libraries was established by the President in September 1966 to: (1) appraise the role and adequacy of libraries, now and in the future, as sources for scholarly research, as centers for the distribution of knowledge, and as links in our nation's rapidly evolving communications network; and (2) evaluate policies, programs, and practices of public agencies and private organizations -- and recommend actions that might be taken by public and private groups to ensure an effective, efficient library system for the nation. After several months of discussions, presentations, and studies, the Commission decided to initiate a series of brief supporting studies to provide further background information for the Commission members. This report describes the results of one of those studies, "Libraries and Industry."

In order to meet the pressing time schedule of the Commission, this study was completed and reported in a total period of three months. Some useful and meaningful results were obtained by this brief effort; however, most of the results were based on information obtained from previous publications and available compilations, rather than from original research or data collection during this project. Consequently, some of the data is incomplete, noncurrent, or inconsistent, and the reader is cautioned to use this data with care. It is questionable data, but it is all that was available and accessible during the time span of this effort.

The objective of this study was to analyze all operating factors in the relationship between libraries and industry. An investigation was made of unsatisfactory situations adversely affecting either library service to industry or industry service to libraries. Recommendations were formulated to assist in the development of an environment in which libraries and industry could interact to the best advantage of both.

"Library" was interpreted in this study to include all types of libraries, including public, college and university, school, special, and government libraries. "Industry" was interpreted to include all organizations that supply materials, services, or equipment to libraries, as well as all organizations that use library services in the course of their regular business.

A number of sources of information were used in this study. In addition to drawing upon the extensive background knowledge of the project staff, a review was made of the relevant published information, discussions were held with many representatives of libraries and industry, and an Advisory Board was assembled to provide guidance and direction to the project staff. The members of the Advisory Board for this project were:

Forrest F. Carhart, Jr., Chairman
Director, Office of Research
and Development
American Library Association

Donald E. Bean
President
Library Management and Building
Consultants, Inc.

Arthur Brody
President
Bro-Dart Industries

Walter M. Carlson
Consultant on Information
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Robert W. Frase
Director, Joint Washington Office
American Book Publishers Council, Inc.
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Institute

Robert M. Hayes
Director
Institute of Library Research
University of California at Los Angeles

John A. Humphry
New York State Librarian
and Assistant Commissioner for Libraries
New York State Education Department

Eugene B. Jackson
Director, Information Retrieval
and Library Services
IBM Corporation

Daniel Melcher
President
R. R. Bowker Company

Theodore Waller
President
Grolier Educational Corporation

The Advisory Board met on 4 August 1967 for an all-day project briefing and discussion session. The Advisory Board also reviewed the final draft of this report and discussed it at a second all-day meeting on 15 September 1967. The results of the study effort were also made available to several of the Commission members in discussions and briefings during the course of the project.

This study has identified many problems encountered in the library-industry interface and has provided a number of specific recommendations for improvements. These topics are described in detail in the following sections of this report.

II CONCLUSIONS AND RECOMMENDATIONS

A. Further Refinement of Statistics

Conclusion:

To make it possible to characterize and analyze the interface between libraries and industry, statistics on many aspects and activities of each must be available. There is much dissatisfaction with definitions and analyses in present compilations of library statistics, and with the subordination of library statistics efforts to education interests. Statistics concerning producers and suppliers of library products are scattered and not comparably compiled.

Recommendation:

Definitions of statistics related to libraries, their users, and suppliers should be further refined where possible.

Support and encouragement should be given to the work of the USASI/Z39 Committee, especially the international standardization of statistics relating to book and periodical production.

Methods of collection and analysis of library statistics should be further studied and standardized.

An agency of the federal government, one without a subject orientation, should be delegated to direct the work of defining, collecting, analyzing, and publishing statistics related to libraries.

B. Medium of Exchange for Interlibrary Transactions

Conclusion:

A major hindrance in library service is the lack of means to compensate libraries for loans and service to other libraries, both public and private; money usually can neither be charged nor accepted. A related problem of library accounting is the variety of deposit account and coupon plans of government publication services. On occasion, private libraries have exchanged Superintendent of Documents coupons and postage stamps, but these are not universally acceptable forms of compensation.

Recommendation:

A common scrip or credit system to be used for purchase of their respective publications should be adopted by all government publication services.

The feasibility of extending this system to provide a medium of exchange for all libraries should be studied.

C. Survey of Users

Conclusion:

Industry use of outside libraries is not well understood. Most studies of public and academic library use have failed to identify the specific needs of industry; few libraries are attempting to obtain information regarding industry use, or to act upon the findings of previous use studies. Many library decisions are based upon conventional or observed patterns of service, with little consideration given to unstated and presently unsatisfied user requirements.

Recommendation:

A review and analysis of relevant prior use studies should be made to identify findings pertinent to an understanding of the industrial user, and to summarize the industrial user requirements as identified to date.

If necessary, new studies that are specifically directed to habits, needs, and problems of the industrial user, both corporate and individual, should also be made.

D. Interlibrary Use Code

Conclusion:

A tradition of interlibary cooperation does exist, but this is considered a privilege and not a right. Many industrial libraries abuse the privilege, although they would be willing to follow more businesslike rules. Traditional library usage and the requirements of the ALA Interlibrary Loan Code do not provide for the types of uses of outside libraries needed by industry.

Recommendation:

The ALA Interlibrary Loan Code and the Federal Libraries Interlibrary Loan Code should be studied and used as the basis for an expanded Interlibrary Use Code, which would provide ethical and procedural rules for the use of outside libraries by industry. This expanded Code should recognize present industrial needs and current information technology, and should cover all usage, including phone and personal visit, for purposes of borrowing, obtaining retention copies, and for reference assistance.

E. Means of Support for Library Service to Industry

Conclusion:

Even the largest research library cannot become self-sufficient, and industrial libraries, being smaller, cannot build collections to anticipate all user needs. Consequently, industry has become an aggressive user of public and academic libraries in order to augment, or even to take the place of, internal information services. A few libraries have established fee schedules to assure compensation by industry for its proportionately heavy use, but many libraries are handicapped by the traditional assumption that library services should be free. Several new projects to provide special information services to industry are receiving partial support from the State Technical Services Act, but, in general, matching funds have been difficult to obtain. Libraries need increasing amounts of support for operation, growth, and expansion of services.

Recommendation:

Additional financial support should be actively solicited by libraries from individuals, corporations, professional groups, and other nongovernment sources.

Support of library services by use charges is a reasonable and expedient means of obtaining compensation for industrial use, and should be encouraged as a means of continuing support.

Federal or state subsidy is occasionally necessary and desirable to launch new library and information services for use by industry. Such subsidy should be based on the service's long-range plans and intentions for complete self-support, should be for a limited period of two to five years, and should not require matching funds. Model or demonstration projects should receive primary emphasis.

F. Standards for Library Equipment and Supplies

Conclusion:

Relatively few items of equipment have been developed specifically for library needs. Libraries have adapted equipment designed for other institutional use to their needs. But libraries have more need to be attractive than non-competitive institutions such as schools and hospitals, and more need for utility than profit-making organizations such as hotels and stores, which redecorate often. For special-purpose items, e.g., catalog cards, card drawers, labellers, some dimension and performance standards are desirable. Some organizations are presently developing standards in these areas.

Recommendation:

The need and utility of standards and specifications tailored to library use should be further studied. Specific items which would benefit by the establishment of standards should be identified. Standards and specifications developed by other public-service institutions should be reviewed for possible application to library needs. This study and review should be performed cooperatively with those professional library groups already working with the USASI/Z85 Committee.

G. Special Requirements for Publications

Conclusion:

The physical characteristics of conventional published materials display a wide range of quality and a variety of formats. This variety is even more apparent in nonconventional materials, such as microforms and computer tape versions of indexes or catalogs. For libraries, this variety presents difficulties in handling and storage.

Recommendation:

The special requirements of libraries for handling and storage of publications should be used as the basis for developing material specifications and performance standards for different types of publications -- e.g., permanent/durable paper for scholarly books, heavy-duty bindings for children's books. Such standards and specifications should be developed with the advice of the library profession.

H. Identification of Publications

Conclusion:

The greatest problems encountered in the library-publisher-supplier relationship occur in the library's acquisition of published material. Some system of unique identification of titles, both book and periodical, would assist in this acquisition effort and consequently greatly benefit all members of this group.

Recommendation;

The Standard Book Number Plan now in use in Great Britain, and recently approved in modified form by the American Book Publishers Council, should be adopted and used by all book publishers.

The feasibility of a similar system for periodical publications -- possibly an extension of the CODEN for titles to identification of specific volumes and issues -- should be investigated.

I. Copyright

Conclusion:

Libraries are presently using increasing amounts of photocopies in order to give service adequate to industry's needs. Many of the innovations now foreseen for library technology will include new copying features. There is controversy regarding the degree to which this library use is in violation of copyright. Most, but not all, aspects of this problem have been studied. Present copyright laws are not satisfactory; the proposed legislation is controversial, particularly in regard to computer handling of information, and may be delayed. A National Copyright Commission has been proposed and may be established to study these problems.

Recommendation:

Principles of copyright, and reasonable forms of protection for the copyright holder, should be delineated in a way consistent with present library use and anticipated technology. These principles should cover such areas as copying of library materials by or for individual users; copying by libraries as a substitute for loan; and use of computers and display equipment in such areas of information retrieval, text processing, and archive storage.

Discussion and study should be continued by all parties in an attempt to reach agreements and understandings that can lead to mutually satisfactory legislation.

III LIBRARIES

A. Public Libraries

The first large public library in the United States was established in Boston in 1853. By 1876 there were 188 tax-supported libraries in the nation,[1] and today there are over 6,700,[2] many with branches larger than most libraries of 50 years ago. The early flourishing of the public library in America corresponded with the influx of European immigrants, and a tradition of free-time education and cultural elevation was established. Increased leisure time of the educated and of the culturally advantaged in the last two decades turned the public library to the display of light reading, hobby books, and even music records and rental pictures. With the recognition of urban ghettos, the public libraries in cities have regained their missionary spirit, and, with the help of federal funds, are attempting to supply the deprived with the printed word. There is doubt that the deprived are aware of this effort, despite the fact that attempts are being made to publicize these special services. Prominent librarians are calling for research into the desires of users and nonusers, and if such research is forthcoming, the characteristics of public libraries may change markedly.

Large urban libraries and library systems, serving populations of 100,000 or more, number about 150. Their growth, particularly with the help of monies from federal programs, is assured. Annual book purchases of Fiscal Year (FY) 1966-1967 may be double the previous year's expenditures. Further data on the estimated number, size of acquisition budgets, and expected growth of libraries discussed in this chapter will be found in Table I.

The effects of the changing nature of the urban population and the changing media environment are now beginning to be felt in the large urban libraries and their service programs. If the urban library does not succeed in reaching the minority underprivileged, it may have as its principal user classes the retired and unemployed, along with students of urban schools. Certainly, neither the time pressures nor the temperaments of retired or unemployed users will stimulate libraries to procure new nonbook materials, or to install new communication or data handling equipment.

Probably a major factor in the library future, but an unpredictable one, will be urban renewal projects. As decaying downtown areas are leveled and rebuilt, the library buildings may be refurbished or replaced, whereas without the renewal projects the library would not receive assistance.

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1. Daniel, Hawthorne. Public Libraries for Everyone. Garden City, N.Y.: Doubleday & Company, Inc., 1961, p. 14.

2. The Bowker Annual of Library and Book Trade Information, 1967. New York: R. R. Bowker, 1967, p. 6.

Table I

ESTIMATED NUMBER, SIZE OF ACQUISITION BUDGETS, AND EXPECTED GROWTH OF VARIOUS TYPES OF U.S. LIBRARIES

Type of Library	Estimated Number	Size of Annual Budget for Acquisitions[2] (millions)	Expected Growth in Number and Size
Public	6,783[1]	$73	Moderate
College and university	1,810	77	Rapid
Junior college	858		Very rapid
Secondary school	49,158[3]	93	Rapid
Special	10,000[4]	n.a.	Moderate
State	50	n.a.	Moderate
Federal	2,150[5]		Rapid

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n.a. = not available.

Notes:
1. Ref. Bowker Annual, 1967, based on 1965 data from questionnaires. There were 6,783 libraries with book budgets greater than $5,000/year, 2,700 more with book budgets of $2,500-$5,000/year.

2. Ref. Bowker Annual, 1967. These 1965 figures do not show effect of recent federal legislation.

3. Ref. Bowker Annual, 1967. Only 33,000 of these had full-time librarians.

4. Based on Bowker Annual, 1967 which distinguishes law and medical libraries and special libraries as branches of other systems.

5. Ref. Federal Library Committee. Of these, 1,100 are base and patient libraries; 500 are special libraries. All have budgets over $10,000 or one professional librarian.

The total number of new library systems is not increasing; cooperation and centralization act to reduce the number of systems at the same time new libraries are being established. Branch libraries are increasing, with the help of real estate promoters and neighborhood pride.

Small and medium-sized urban libraries (those serving under 100,000 people in an urban situation), of which there are an estimated 1,000,[3] are certain to increase in number and in size as suburban areas become urban. However, they probably will not assume the characteristics of the present large urban libraries, particularly not the architectural styles, which often make expansion of book storage area impossible. Concurrent with the increase in size and numbers of these libraries will come cooperation in regional plans, blurring the traditional service lines of the community library.

Suburban libraries are currently the fastest multiplying element of the public library world. These are recognizable as a type, although their organizational connection may be as a branch of a city, county, or independent community library. They are distinguished by their in-person clientele of housewives and students from households above average in education and income. Their use by business is largely by phone. Their collections are small and current, with emphasis on new nonfiction. Constraints of size and budget make these libraries good prospects for cooperative purchasing and processing, and for reciprocal use arrangements with neighboring city and county libraries. In these urbanizing rural areas the sophistication of the users will cause a strong demand for special resource materials, such as microfilm and microfiche, facsimile and photocopy, closed curcuit TV, and on-line reference service, tied into regional, national, and international networks.

By 1965 some form of regional libraries existed in all but nine states.[4] Cooperation of libraries by county, groups of counties or in other forms of regionalization is the usual pattern, with direction being provided by the appropriate state level agency. In some states the cooperative plans include other than public libraries. The three patterns of cooperation practiced today, in order of decreasing centralization of control, are consolidation, federation, and cooperation. Typical service features of these regional systems are the development of union lists of holdings, delivery service, and teletype communication. Internal advantages of these systems are centralized ordering and processing of books, central library storage at the largest library, and buildup of this central collection. It appears likely that the regional cooperatives are prime prospects

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3. Richardson, R. L. Small and Medium-Sized Public Libraries. Library Trends 10:132-138. October 1961. p. 132.

4. Smith, Hannis S. ed. Regional Public Library Systems. Library Trends 13:275-382, January 1965. p. 276.

for growth, because their administrative problems are simpler than those of broader-based systems, and their chances of acquiring funds under recent legislation are very good.

B. College and University Libraries

As a group, college and university libraries have received comparatively little attention or analysis in recent years. In contrast, junior college libraries, as will be seen in the following section, have been surveyed minutely. And public libraries, being involved with present social problems, have been the subject of several published studies.

The aspect of large academic libraries receiving most study is their very size, particularly as there would appear to be danger of some of them developing into dinosaurs and becoming victims of their own growth. For this reason, one of the most vital studies is the 1967 report of the "Past and Likely Future of 58 Research Libraries." [5] The results of this study are as predicted by the first study beginning in 1950; the outlook is for consistent, slightly accelerated growth. This appears a routine result except that the consistency is a doubling in total size every 17 years, a doubling in acquisitions every 9 to 12 years, and a doubling in expenditures every 7 years. Expenditures for books, periodicals, and binding have been doubling every 6 to 9 years. "Readers may suspect, as have others before them, that the future will not keep pace with the growth rates of the recent past ... Unfortunately, perhaps, the reasons for enlarging this 1980 prediction seem better than the reasons for reducing it." [6] In predicting that deceleration will not occur soon, the study authors point out that all factors indicate that research, scholarship, higher education, available funds, and populations are still moving up, rather than stabilizing.

The prospect of accelerating growth has heightened the interest of large university libraries in mechanization, and particularly in plans for cooperative production of bibliographic tools, e.g., the participation of university libraries in tests of the machine readable cataloging (MARC) records on tape made by the Library of Congress. Most library suppliers of any size have converted their business records to mechanized handling; in the near future they may find that large libraries are seeking a compatible method to produce order records acceptable to dealers and at the same time acceptable to the libraries' own acquisitions and cataloging departments.

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[5] The Past and Likely Future of 58 Research Libraries, 1951-1980; a Statistical Study of Growth and Change, by O. C. Dunn, W. F. Siebert, and Janice A. Scheuneman. 1965-66 (Third) issue, February 1967.

[6] Ibid., p. 75.

Another effect of the continuing growth of academic libraries is the effort to keep library units to a human scale. Small subject libraries in departments and undergraduate libraries are examples of the decentralization and duplication that exists. As a result, more book funds go toward multiple copies. Also, the desire for a complete record of a library system in any one of the units has created a demand for a revival of the book catalog, now produced by machines, sometimes by commercial processors and publishers.

Even though transient, the student population of a college or university is captive and an excellent subject for identification card control, for fees, tuition, and all other records including library borrowing. Several schools have adopted a credit card method of keeping student records; the library will be carried along with the system installed in its school and will eventually be one of the biggest users. The new ease of making out circulation records might boost library use.

Problems of size and necessary speed of accomplishment have arisen with the recent establishment of new college and university libraries, forcing librarians to take processing shortcuts they have previously felt were unprofessional. The wholesale selection and processing of books for new campuses, as exemplified by the University of California libraries at Irvine, San Diego, and Santa Cruz campuses, showed that such a procedure was practical and economical. The resulting book selection tool is aiding in similar quick actions to have libraries ready as soon as their buildings are completed.[7,8]

C. Junior College Libraries

In 1965 it was observed that "Junior colleges are breaking out like measles all over the country," [9] and the Commissioner of Education, Harold Howe, recently reported a continual increase at the rate of one a week. Pressures of population make the junior college, particularly the nonresident type called the community college, an increasingly important institution. The mushroom growth to meet the need is allowing junior college libraries to take advantage of new thinking and new technology.

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7. Voigt, Melvin J. and Joseph H. Treyz. The new campuses program. Library Journal, 90:2204-2208. May 15, 1965.

8. Books for College Libraries, prepared under the direction of Melvin J. Voigt and Joseph H. Treyz. Chicago: American Library Association, 1967.

9. Almy, Patty. Background and development of the junior college library, Library Trends 14:128, October 1965.

One change in philosophy has brought the junior college library a building of its own, one in the center of student traffic and designed for purposes other than to look monumental and house books. Paradoxically, the two strong movements in junior college theory are a gravitation toward books, with Louis Shore's concept of the "library college," and an equally strong pull toward all nonbook media to make the library an audio-visual center.

While the junior college still need not have a library like that of a great research center, the minimum standard has now been set at 20,000 volumes, with an additional 5,000 volumes for each increment of 500 students over 1,000.[10] At present only about 25 percent of libraries meet this standard, but in 1930 the standard was only 4,000 volumes.[11] In a survey of 50 libraries, average holdings were found to be 16,738, with an average of 1,759 books added in FY 1963-1964.[12] These same libraries received an average of less than 5 percent of the educational and general budget of the school.[13]

In another survey of 216 junior college libraries (135 responses) in 1962-1963, the mean holdings were 21,700 with a median of 18,000; mean expenditure for resources was $11,200, median $9,650; and mean resources added was 1,120 with a median of 965.[14]

This last survey also inquired into ordering procedures. Fifty-one libraries sent off their own orders, while 82 forwarded through other hands, 60 percent through a college business or purchasing office, and 37 percent through a board of education office. The survey author hypothesizes that the reason a large majority of the junior college libraries did not place their orders directly with suppliers is that many junior colleges have their financial and administrative bases in boards of education. The boards, by legal interpretation or by inclination, are reluctant to allow commitment of money by anyone else.

An emerging concept is one making the library an instructional resources center. Not only books, but records, tapes, microfilms, and

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10. ACRL Committee on Standards, Standards for junior college libraries, College & Research Libraries 21:200-206, May 1960.

11. Olsen, Humphrey A. Building the book collection, Library Trends 14:158, October 1965.

12. Ibid.

13. Olsen, op. cit., p. 159.

14. Pirie, James W. Junior college library processing, Library Trends 14:166-173, October 1965.

television, will be available. "Electronic equipment will make it possible to transmit sounds and images any distance to the classroom, the laboratory, and to a student's residence by dialing and electronically receiving the research material needed." [15] All these changes are possible in other types of libraries, but are most quickly coming to junior college libraries because they are an optimum size for experimentation, there are so many now in the planning stage, and they have a present likelihood of good funding.

D. School Libraries

There were over 83,000 public schools in the United States, in 1962, and less than 50,000 of these had centralized libraries.[16] A 1958-1962 growth rate of 8.5% is probably now accelerating.[17] Two major factors that will contribute to continued growth are an increase in the student population and a decrease in public tolerance of schools without central library facilities. When rural public libraries first received federal funds in 1956, it was partially in response to recognition that all citizens were entitled to public library services. Similarly, recent federal aid to school libraries recognizes that all students need school-oriented reading guidance and access to library services which supplement their classroom training.

One of the most striking characteristics of school libraries is their small size. The average number of volumes in all schools with centralized library facilities was under 3,500. For secondary schools alone, the average is still under 5,000 volumes.

The average staff size, too, is small. Since the average librarian in a school with a centralized library serves over 900 pupils (740 in secondary schools), it is obvious that there must be a conflict between technical processing and service to pupils and teachers even though the book collection is small. If this figure is limited to include as librarians only those with 15 or more semester hours of library science, the number of pupils served rises to 1,606 for all schools or 898 for secondary schools. One person simply cannot provide the level of service called for by American Library Association for that many pupils. Even if more money were available for extra staff, the general shortage of

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15. Trinkner, Charles L. Introduction: junior college libraries, Library Trends 14:121, October 1965.

16. Unless otherwise noted, all statistics are from: U. S. Office of Education. Public School Library Statistics, 1962-63. Washington: Government Printing Office, 1964. OE-15020-63.

17. Darling, Richard L. School Library Statistics, Bowker Annual, 1966, p. 48.

school librarians for positions already budgeted makes it doubtful that sufficient people could be found. Besides the scarcity of professionals, there is an even greater lack of trained clerical help to support the library program.

The overall needs for school libraries are as follows:

- More books for reference, research, and recreation to supplement the entire teaching program of the school.
- More equipment, both to set up new libraries and to expand already existing libraries.
- More purchases of new equipment such as copying machines and new circulation equipment.
- More audio-visual equipment, to reach nonreaders and to supplement the conventional textbook-oriented teaching program.
- More staff, both professional and subprofessional or clerical, to implement the library program for each pupil.
- More labor saving or labor-substituting devices, (e.g., commercial or centralized technical processing, or pre-selected, pre-cataloged modular collections) such as those now becoming available in microform, to relieve the library staff.

Funding to meet these needs is unlikely to come from the present major sources of school funds. In 1966, the total U.S. expenditure for elementary and secondary schools[18] was $25 billion. Local governments provided about 53 percent; state governments about 39 percent; and the federal government about 8 percent. Both state and municipal governments are having trouble providing even the current level of school library support with the rapidly increasing need for all public services. In the cities, an eroding tax base and expanding low-income population implies even less support in the future for school libraries. Any attempt to meet the obvious needs of U. S. school libraries in general must come from the U. S. government and the states. A consideration of how federal aid is now being supplied to school libraries and the likelihood of changes in these programs is necessary.

Within the 83,000 school libraries identified in 1962-1963, two breakdowns may aid in understanding both the diversity of problems to be faced in expansion and the ways any extra funding for growth will be reflected in purchases. The first breakdown is simply by level of the schools. Of those 83,000 schools, almost 60,000 are elementary schools, almost 17,000 are secondary schools, and almost 7,000 are combined elementary and secondary schools. Over 97 percent of the secondary schools and almost 90 percent of the combined schools already have centralized libraries, but less than 45 percent of the elementary schools have them. Newer elementary schools are being built with central libraries, and older schools feel public pressure to add them. The implications for industry are clear: the books, furniture, and equipment sold to start entirely new libraries will be mainly those for elementary schools. The purchases made by secondary school libraries will be for replacement or additional equipment, and past experience may serve as a guide for these purchases.

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[18] A view from the hill. Library Journal 92:313-17, January 15, 1967.

A second way to characterize these school libraries is by the location they serve. Some are rural, some are suburban, and some are urban. Each of these environments is experiencing different overall population growth rates, and the growth rates are also different with respect to income and educational level of the newcomers. It has been stated often enough that the U. S. society has been changing from an agricultural society to an urban one. Poor rural inhabitants leave the farms and move into the city in search of jobs, and middle class, well-educated people move out from the city to suburbs. One of the reasons most commonly given for the latter migration is a desire for a better education for children. The central city retains the lower-income groups who cannot afford to move to the suburbs.

The implications of this breakdown by population served are less clear for industry. Large urban areas, with over 25,000 pupils in their school systems, spend less per pupil for books and have fewer books per pupil. It can probably be assumed that the city schools need more audio-visual equipment to educate nonreaders, more low-level reading material, and more foreign language material. Research, reference, and recreational needs, however, can probably be met by the availability of large public libraries. The furniture and other equipment needed by urban schools should be about the same as that needed in suburban or rural schools.

Within the suburban schools, the higher quality of the overall education program may be backed up by the school libraries. These schools, with more money available per student, have often started experimental programs and will probably start even more with the added stimulus of federal funds. Schools that are experimenting with programmed instruction, or that have extensive audio-visual courses, will need special texts and may even purchase the special equipment through the libraries rather than separately through each department. The libraries may also be called on to supply training materials for the teachers who have to operate these experimental programs, so that a small teachers' reference library may be built up. Students taking advanced placement courses in the secondary schools will need college-level supplemental reading and reference materials as well as texts. The overall effect for library suppliers is that, while the urban school libraries are still trying to acquire enough books at different levels to supplement even a conventional teaching program, many of these suburban libraries must also purchase materials that will make them truly "instructional materials centers." Since suburban public libraries are smaller than central city libraries, the school libraries often try to meet all student needs.

The rural school library, even more than the suburban school, must do all things for all students. Public libraries in rural areas traditionally have not been strong, although they have improved significantly since 1956 when federal funds from the Library Services Act first gave aid to communities of under 10,000 people. Smaller populations, lower family income, and thus lower tax revenues, have hampered the development of school libraries, too, in rural areas. Consolidations into larger, more economical regional units is difficult due to the distances that students must travel. The implication for library suppliers is that, like the urban school library, the rural school library with extra funds will be attempting first to bring its book collections up to ALA standards. It will have to provide for any reference and research work by students as well as for supplementing the curriculum, and it may also have to provide recreational reading for students if the local public library cannot provide this service to youth.

All of these generalizations by location are necessarily oversimplifications, and many exceptions can be found within each type. Some large urban school systems have been well supported for many years and have sponsored numerous experimental teaching programs with strong library backing. Many suburban schools have not had much money available for libraries and have had generally poor educational programs. This can easily happen where rapid growth of a community puts a sudden stress on all public services. Some rural areas have provided excellent support for schools and school libraries. The purchases made by any one school library will really reflect individual circumstances.

E. Special Libraries

The term "special libraries" includes all libraries with subject specialization or serving a special group or class of users, but the concern of this report is only with those special libraries not included as parts of other library systems. Of the 8,500 to 10,000 special libraries of all types, about 25 percent, or 2,200, are in business and industry, and about 30 percent, or 2,600, are in nonprofit associations, organizations, societies, and institutions.[19]

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[19] Strable, Edward G., ed. Special Libraries: A Guide for Management. New York: Special Libraries Association, 1966. p. 1-2.

In addition to special subject interests and special user groups, other characteristics distinguish this class of library. They are invariably part of larger organizations. They are typically small in size and staff. They emphasize the information function. Each of these characteristics has important effects on the position of the special library as a consumer.

As part of a larger organization, but unique in some of its purchases, an industrial library often seems a free agent in its discussions with suppliers, but later review by management or purchasing departments may invalidate agreements reached with the librarian. However, in comparison with public, school, and academic libraries, industrial library budgets are very flexible and short-range.

The small size of most industrial libraries and their nonstandard character make them a low-profit customer to publishers, dealers, and suppliers, who are expected to allow the standard library discounts predicated on large volume business.

Emphasis of special libraries on the information function results not only in smaller purchases of publications initially, but also in the discard of low-use materials. The effective industrial librarian balances the cost to the company of acquiring and maintaining particular publications against the cost of getting the publications on an ad hoc basis when they are needed.[20] With few exceptions, business and industrial organizations take no satisfaction in maintaining large libraries or complete archival coverage. It is sometimes a point of pride that a collection contains nothing over five years old. Such a library obviously is not a big consumer of shelving or of binding services. On the other hand, quick and efficient service is stressed, making the industrial library a good market for high-priced business information services and for communication and information-handling equipment.

F. State Libraries

The prime reason for the existence of a state library is to support the work of the state government. However, the very existence of a large, stable library at the core of the state acts as a nucleus for statewide library service. A possible classification of library functions to be found in state government is: (1) the operation of special libraries and library services (law, history, etc.), (2) library development, especially support of public library development, (3) supplementation of book and materials collections for local libraries, (4) financial support to local and other libraries, (5) facilitation of interlibrary cooperation through bibliographic and other finding and communication services, (6) direct service to various unofficial users, (7) maintenance of a large and comprehensive book collection, (8) maintenance of an archives program, (9) maintenance of a documents collection, (10) promotion of library services in the public schools, (11) services to disadvantaged users.[21]

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[20] Sewell, Winifred. The needs of industry for library services beyond that expected of their own special libraries and resources available to them. Library Trends 14:226-235, January 1966.

Following passage of the Library Services Act in 1956, state libraries assumed the responsibility of administering federal funds for library service and of planning for public library service in their states. In 1960, the state agencies were seen as "the key libraries controlling the gateway to future library development." [22]

Twice recently it was pointed out editorially by *Library Journal* "that the state level has become the focal element in the structure of library service in this country; that in general it is ill-equipped to fulfill this relatively new major role; and that the profession as a whole has a responsibility to see that it is noticeably and quickly strengthened." [23]

G. Federal Libraries

Libraries in the federal government have the most diverse responsibilities, and the most widely felt influence of any libraries. At the same time, they operate under the most restrictive rules and the most variable policy lines. The Library of Congress, our principal national library, has kept a remarkable stability of policy and services to the country's libraries, but even the largest of the other federal libraries have had difficulty establishing their areas of responsibility and levels of service.

Federal libraries may only be set up by authority of Congress, although this authorization may be a special act setting up a library or authorizing operation of a library program, or it may be found in a general functional or operational authorization that is interpreted to require or permit establishment and operation of a library. In any event, an annual appropriation of funds is essential to continuance. Thus the three "national libraries" have fluctuating levels of service, and smaller government libraries are in uncertain and ambiguous positions which make long-range planning difficult.

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21. Monypenny, Phillip. *The Library Functions of the States: Commentary on the Survey of Library Functions of the States*. Chicago: American Library Association, 1966. p. 6.

22. Brahm, Walter T. State Libraries, *Library Trends* 10:91, October 1961.

23. *Library Journal* 92:1395, April 1, 1967, referring to *Library Journal* 91:1181, March 1, 1966.

In an effort to coordinate and get support for the activities of the federal libraries, government librarians have formed a Federal Library Committee, which has produced a set of guidelines. These are intended to give "a clear understanding within federal agencies of (1) the services federal libraries can provide to support missions of their agencies, and (2) the resources the libraries must have to develop these services."[24]

A further project of the Federal Library Committee was the production of a procurement manual to assist federal librarians in their relations with suppliers and the intermediate agents.

Federal libraries are even more closely restricted by the purchasing requirements of their parent organizations than are other libraries. These requirements are: budgeting, competitive, statutory, and performance requirements. The librarian is one of three agents, the others being the procurement officer and the finance officer, and the only one of the three who is primarily interested in the fourth requirement, dealer performance. Ultimately the control is fiscal, and the necessity of satisfying General Accounting Office audits overshadows other considerations.

H. Cooperative Library Systems

As the ability of any single library to gather and process all publications of possible interest to its users decreases, arrangements to pool resources and to facilitate joint use of several collections are being developed. Almost every library is now connected with some cooperative system in addition to its primary organizational position.

Being service departments, libraries have always had a tendency toward cooperation, but not being independent agents, they have usually had to confine cooperation to informal arrangements. The traditional means of mutual help has been the interlibrary loan [illegible] books and bound journal volumes, as a professional courtesy and according to set rules (the ALA General Interlibrary Loan Code). Increase in need for such borrowing led to exchange of information about resources, through compilation and publication of union lists and directories of whereabouts of special collections. The increase in need paralleled growing availability of copying equipment which now makes it possible to substitute a retainable copy for the loan of an original.

More often than formerly, a reader desires actual physical access to public libraries to which he has no tax-paying right. Increasingly, libraries are making provision for reciprocal use by issuance of library cards to outsiders on application. Also, two towns, or a town and county, may arrange for open use, with payment made from one to the other on the basis of use statistics.

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[24] Federal Library Committee. The Federal Library Mission: A Statement of Principles and Guidelines. Washington: The Committee, 1966.

These special provisions for use indicate that coordination of public library services into larger units will continue. City and county libraries join to form regional entities and these to form state systems. Henderson[25] identifies 7 patterns of county and regional organization, from county service by election to what is in effect a single library system in a state. Greenaway[26] notes the discrepancies in service and in tax-support of service in Philadelphia and suburbs, and finds we are being forced into developing larger library units. Once the concept of larger library units is accepted in a system, not only are borrowers aided, but internal service economies can be effected. Centralized book cataloging and processing can be arranged, often by the state library.[27] Connecticut State Library is pioneering in a program of statewide public library service.

Academic libraries are less affected by responsibility for serving wider geographic areas, but are being forced into cooperative arrangements by increasing breadth of subject interests and by sheer size of collections. These cooperative arrangements vary from actual merging of collections in a storage center to loose consortiums for reciprocal borrowing.

Historical efforts at academic library cooperation, such as the Midwest Interlibrary Center as a pooling of little-used materials, and the Farmington Plan as a sharing of acquisition and cataloging work, are slow in being widely imitated. Present cooperative programs stress lending arrangements; a few have acquisition agreements to cover subject areas without unnecessary duplication.

The guide to consortiums[28] recently issued by the Office of Education lists over 1000 consortiums with notation of their purposes. About 130 of these specifically include library cooperation. Over half of these library cooperation agreements are between two or three academic institutions in the same area. One example is the Joint University Libraries of George Peabody College, Scarritt College and Vanderbilt University.

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[25] Henderson, John D. County and regional libraries. Library Trends 10:104-119, October, 1961.

[26] Greenaway, Emerson. Large Public Libraries. Library Trends 10:120-131, October 1961.

[27] Hiatt, Peter. Cooperative processing centers for public libraries. Library Trends 16:67-84, July 1967.

[28] Moore, Raymond S. A Guide to Higher Education Consortiums: 1965-66. Washington, D.C.: U. S. Department of Health, Education and Welfare, 1967.

Most large consortiums are not library plans primarily; they are academic plans of which library cooperation is one aspect. Examples of large consortiums which include library cooperation are: TAGER, formed by 7 Texas academic institutions,[29] the Mid-America State University Association, and the Four-College Cooperative, of Amherst, Mount Holyoke, Smith and the University of Massachusetts.

Consortiums established primarily for library purposes and noteworthy for their size are: the Area College Library Cooperative Program of 9 Pennsylvania colleges, [30] the Library Council of 6 Kansas institutions, and the prototype Center for Research Libraries, the former Midwest Interlibrary Center.

As valuable as the preceding developments are, they are surpassed in importance for library service to business and industry, and to the general public, by the development of cooperative systems which tie academic libraries to public libraries. These are still few and experimental. One example is the Community Library of Yankton, South Dakota, comprised of Yankton Carnegie Library, Yankton Public School, Mount Marty High School, Mount Marty College, and Yankton College libraries. Important examples of such cooperation are the Associated Science Libraries of San Diego [31] (which links the San Diego Public Library with libraries of San Diego State College, University of California at San Diego, U.S. Naval Electronics Laboratory, Ryan Aeronautical Company and General Dynamics facilities) and the Library Group of Southwestern Connecticut (which links the public libraries of Stamford and Greenwich with those of Yale University and the State Library in cooperative service to industry).

Implicit in cooperative library systems is the development of communication systems. A few library consortiums recognize this as their primary purpose. Examples are: the Medical Library TWX Network (linking Duke, North Carolina and Virginia Universities and Wake Forest College and Medical College of Virginia) and the Library Teletype Network (tying the Connecticut State Library with the public libraries of Hartford, Bridgeport, New Haven, Stamford and Greenwich and the libraries of Connecticut and Trinity Colleges and Yale, Wesleyan and Connecticut Universities). Experiments in transmission of actual library materials, rather than citations, have been made in several library situations, notably between the Universities of California and Nevada, and under the sponsorship of the South Carolina State Library and the New York State Library. EDUCOM, the Interuniversity Communications Committee, has completed a study on information networks [32]

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29. Seven Texas academic institutions form cooperative postgraduate "multiversity." Library Journal 91:1381-82, March 15, 1966.

30. Nine Pennsylvania colleges begin library cooperative project. Library Journal 91:2452, May 15, 1966.

31. Associated Science Libraries of San Diego. Prepared by the Committee for the Associated Science Libraries of San Diego, California. 1963.

32. Edunet; Report of the summer study on information networks, conducted by the Interuniversity Communications Council (EDUCOM). New York: Wiley, 1967.

to aid in planning a future academic communication system. The Association of Research Libraries is concerned with national planning for library and information systems.

At the national level, several plans have been promulgated, some in special fields of medicine and education (the MEDLARS and ERIC centers), recommendations for document handling systems from the Federal Council for Science and Technology (the COSATI report),[33] and for national library networks[34] with various levels of participation.

Thus, major long range efforts are underway at the city, state, regional, and national levels, to make library resources more widely available through cooperation. The ultimate aim, to gain control over information and channel it for the most efficient use, is certain to have implications for the future of libraries and all aspects of business and industry which have contact with them.

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33. Federal Council for Science and Technology. Recommendations for National Document Handling Systems in Science and Technology. Washington, D.C.: Clearinghouse, 1965.

34. Meise, Norman R. Conceptual Design of an Automated National Library System. (Thesis) Hartford, Conn.: Rensselaer Polytechnic Institute, June 1966.

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IV LIBRARY BUILDINGS

A. General

Recent developments in library operations -- new services, new techniques, growth of collections -- have been accompanied by an increase in library construction, both in expansion of existing facilities and the creation of new ones. Undoubtedly a great impetus for this construction resulted from the infusion of federal funds. According to a recent survey: "The Federal government through its financial grant programs, participated in the construction of at least 715 new public and academic library buildings in fiscal 1966. Other federal programs assisted in the construction of a variety of special, academic, and public library facilities."[1]

In general, current library construction does not follow traditional patterns. However, certain traditional elements -- book storage, reader space -- are still necessary and will continue to be. Additional demands are being made by the increasing variety of nonbook materials made possible through new technology; new and expanded services being offered by libraries also affect building designs.

B. Public Libraries

A recent report by the Office of Education, described as the "only substantive report ever issued on public library building facilities,"[2] provides some cost figures for public library construction. This is difficult information to obtain, but it is greatly needed in budgeting for new facilities. According to the report, capital outlay for public libraries has increased in the period 1946-1965 from $1.8 million to $103 million. In 1965 new public library buildings cost about $25 per square foot to construct; additions cost about $20 per square foot, and remodeling and alterations cost about $8 per square foot. The projection for 1966-1975 capital outlay for public library construction is $1.9 billion.

The focus of recent public library design and construction has been upon the small public library, especially branch libraries belonging to a large system. These branch libraries are designed to be an integral part of a neighborhood, with their primary function that of direct reader services while depending upon the central library for technical processing. In large cities, many of these branches -- or smaller reading stations -- are set up in commercial buildings which require considerable renovation within a fixed area.

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1. Drennan, Henry T. Federal funds for facilities. ALA Bulletin 61:1054, October 1967.

2. Library buildings study gives new statistics. Library Journal 92:2694-2696, August 1967.

The construction of new branch libraries, particularly in suburban areas, presents an opportunity for innovation and imagination in both design and furnishings. The relatively small size of the library, its emphasis upon reader services, its lack of large book stack areas, all combine in creating an atmosphere of informality and easy accessibility. Many of these branch libraries also serve as neighborhood centers -- for lectures, film showings, group meetings -- thereby calling for flexibility in construction to allow for easy and rapid changes in interior wall arrangements

With increasing urbanization and the spread of megalopolis, the growth of branch systems seems assured, and this growth should benefit the local construction industry. The small size of the library building and its close identification with a neighborhood advocate the use of local rather than national architects and building firms. The inexperience of local firms in dealing with library problems need not be a handicap if there is guidance from a library consultant, either an independent agent or a member of the parent library system.

The increasing use of nonconventional format materials in the library, especially audio-visual materials, must be taken into consideration in planning new library buildings and in renovating older ones. In addition to space requirements for listening areas (both tape and disc), microform readers, projection equipment, etc., provision must be made for meeting the lighting and soundproofing specifications for such equipment. Use of more sophisticated media will make additional demands for controlled climate, stable power source, and reinforced structures.

Public libraries have been using audio-visual materials for some time, principally recordings and microfilm, though not to the extent that such materials are utilized in school and research libraries. Microform usage will undoubtedly increase, due to the growing availability of heretofore unavailable materials in this form. Telefacsimile transmission of interlibrary loans between public libraries is being experimented with in New York and South Carolina, and has considerable possibilities, once costs can be reduced, for use in a state library-coordinated loan and reference system. Use of an on-line computer system to tie in with large bibliographic files is not too speculative for public libraries to consider.

C. College and University Libraries

Education in general, and higher education in particular, has experienced a tremendous growth since World War II. Some of this growth can be attributed to the overall population increase, but much more is due to changing patterns of demand for education. The ever-increasing number of students seeking a college education has caused academic buildings to bulge at the seams, and nowhere is this more apparent than in the college library. As one critic has commented:

> "No college or university library building, constructed in the United States before World War II, has been able to serve adequately the needs of its campus today, less than twenty years later. All of these buildings have either been abandoned, supplemented, or in some cases, remodeled or enlarged. Those that have been remodeled and enlarged are, at best, makeshift compromises. Not one of these prewar library buildings is as functional as is the average postwar college or university library building."[3]

However, the obsolescence of many academic library buildings cannot be charged to size alone. Many other factors contribute to the difficulties encountered in planning and constructing new academic libraries, most of which affect the entire campus Prime among these is the changing concept of the nature and size of the institution -- colleges are becoming universities, professional education is now almost entirely at the graduate level. Combined with such changes is a growing tendency for universities to concentrate upon their research function, sometimes at the expense of the undergraduate's education. This is reflected not only in library collections, but also in library buildings. The "main library" tends to become a retreat for research and reference use alone; a separate undergraduate library is built to house standard works, current periodicals, and the reserve room function Since these undergraduate libraries also serve as study halls, every effort is made to see that they are attractive and comfortable -- to entice the student into the joys of scholarship.

Another factor influencing academic library planning is the changing pattern of use, which, in turn, is greatly influenced by the new communications media. Students are much more sophisticated in their use of library materials, partially as a result of radical changes in teaching methods emphasizing individual study. New techniques -- programmed instruction, closed-circuit television, language tapes -- each requiring fairly complicated equipment, must be accomodated within the library. The increasing use of audio-visual materials by every type of library is especially noted in academic and school libraries Each new format of material makes its own demands in terms of space, lighting, climate, power.

Almost all academic libraries now share to some extent in the automation efforts of their parent institutions. This means that they must now make provision for auxiliary equipment, such as keypunch machines, printers, etc., while planning for more elaborate, on-line efforts. Project INTREX[4] envisions a campus studded with CRT consoles, available to every

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3. Ellsworth, Ralph. The college and university library as a building type. AIA Journal 43:69-72, May 1965.

4. Overhage, Carl F. J. and R. Joyce Harmon, eds. Intrex. Cambridge, Mass.: MIT Press, 1965.

researcher with immediate on-line access to a central data file. The library need not house this central data file, but it will certainly provide much of the input and output.

The modular concept of construction has met with almost universal acceptance by academic library planners. This type of construction allows for considerable flexibility within the building itself, making the installation of audio-visual and automation equipment possible without extensive remodeling. Older libraries that have been built with a fixed multi-tier stack area are finding it difficult to adapt to the demands of the new media.

Architecturally, the large academic library has the greatest interest. The building size required to house a multi-million volume collection and the accomodations that must be made for its use present a challenge to the architect. Funds have been and are continuing to be available for the employment of eminent architects who create library buildings which are not only functional, but which are also frequently recognized as outstanding examples of the art.

D. Junior College Libraries

Junior college libraries are a subset of the academic library world. They share many of the academic library's problems but need to be considered separately because of their many unique features. Since the majority of these junior colleges are brand new -- faculty, administration, facilities -- it has been possible to break with tradition and experiment not only with new services, but also with new types of buildings. The junior college has proved that it is less restrained by the forms of the past, and may even be evolving into what Louis Shores has called the "library college."[5]

In general, the new junior colleges and community colleges are designed and built as a whole. This gives a uniformity of appearance lacking in older institutions which have been built over a period of years. Most of the junior colleges have an upper limit on enrollment which will prevent additions to the original campus; growth results in entirely new campuses, rather than in expansion.

The most significant feature of the junior college library is its housing in a separate building, positioned at the center of the campus. This physical location gives emphasis to its function as the learning resource center, already evidenced by the inclusion of the campus media center within the library building.

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5. Shores, Louis. The library junior college. Junior College Journal 36:6-9, March 1966.

E. School Libraries

While many elementary schools and even some secondary ones are still without libraries today, this condition is changing very rapidly. However, except in the very large elementary schools, the library is simply a reading collection served by a central instructional materials center. This is not true of the secondary school library, which is becoming increasingly important to the instructional program as a result of the emphasis on the newer communications media and more individualized study.

School libraries are seldom housed in separate buildings apart from the school itself. The major problems encountered in the construction and design phase are the physical ones of accommodating the equipment of the newer media mentioned before, and the special ones of control and accessibility. The school library must be centrally located in order to facilitate its use both by individual students and by entire classes; yet it must not inadvertently become a natural passageway, thus disrupting library activities each time a class period ends. Exit control should be built-in so as to free the staff from excessive control duties.

Fortunately, many of these problems have had extensive study, and guidelines are available to both architects and schools for assistance in planning. The efforts of the Educational Facilities Laboratories are especially noteworthy.[6]

F. Special Libraries

With the exception of the large federal libraries and information centers, very few special libraries exist physically apart from their sponsoring institution -- industry, government, academic or large public library system. Most of these special libraries are relatively small and are of limited importance to either architects or builders who are primarily concerned with the overall problems of the institution.

However, the large federal libraries and information centers are of great financial interest to the construction industry. The national libraries have a monumental quality in addition to their bibliographic functions. As such, the competition for design and construction is keen and on a nationwide basis, offering as it does both prestige and financial gain.

The nature and extent of the services offered by these libraries and information centers present a number of problems. They are perhaps the only library-type institutions operating their own computer facilities, and they have taken the lead in developing techniques and equipment for dealing with large machine files. This requires extensive blue-sky planning in order to provide space and support for equipment that does not yet exist. And, in addition, many of these libraries must provide for an increasing number of users in large and well equipped public areas.

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[6] Ellsworth, Ralph E. and Hobart Wagener. The School Library. New York: Educational Facilities Laboratories, 1963.

G. Summary

In spite of the advances in microminiaturization and automation of information retrieval, libraries as we know them today are here to stay. The physical book will continue to be printed, to be stored in libraries, and to be read by people in these same libraries. Awareness of this fact on the part of designers and builders is seen in recent construction with its emphasis upon visual appeal and comfort -- in all types of libraries.

Design as well as function has been the concern of all those connected with library planning. The ALA-sponsored Library Buildings and Equipment Institutes attest to the interest of the library profession in such areas, as does the growing number of library building consultants and their insistence upon a detailed building program. Such concern is shared by others as well -- e.g., the annual Library Buildings Award Program sponsored jointly by the American Institute of Architects, the ALA, and the National Book Committee.

The professional literature and librarianship affords much information on planning, designing, and equipping new libraries. The annual December 1 "Architectural Issue" of Library Journal deserves special mention for its efforts in this field.

The greatest problem facing libraries contemplating new facilities is the rising cost of construction. This can only be solved by careful and exact planning, coupled with aggressive efforts at fund raising from all available sources.

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V INDUSTRY AS A SUPPLIER OF LIBRARY MATERIALS

A. General

The one essential industry without which libraries could not operate is publishing. It supplies the source materials that form the basis for all library operations. As the Public Library Inquiry has pointed out: "Librarians ... have a vital interest in the book industry; any factor which influences the nature and availability of books must, in the long run, deeply affect the services rendered by libraries to the public.[1]

The relationship between publishers and libraries has been examined in the past, notably in the Cheney Report of 1930-31,[2] which has been characterized as the most valuable general survey of the industry made so far, and in the Book Industry volume of the Public Library Inquiry.[3] A symposium on librarianship and publishing held at Syracuse University in 1960[4] indicated that changes in the relationship between publishers and libraries would occur as a result of the increasing availability of books, which, in turn, is a result of the increasing production on the part of publishers and greater buying power on the part of libraries.

However, consideration of the publishing industry must not be limited to books alone. Newspapers, periodicals,[5] government documents, etc., all constitute an essential and valuable part of the library's collection.

B. Characteristics of Publishers

The publishing industry has grown at a steady rate, especially since the end of World War II. This growth pattern has been well documented by the book publishing industry, primarily through the efforts of the American Book Publishers Council, and is presented in Table II.

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1. Miller, William. The Book Industry. A Report of the Public Library Inquiry. New York: Columbia University Press, 1949, p. ix.

2. Cheney, O. H. Economic Survey of the Book Industry 1930-31. New York: R. R. Bowker Company, 1960.

3. Miller, op. cit.

4. Melinat, Carl H., ed. Librarianship and Publishing. Syracuse, New York: School of Library Science, Syracuse University, 1963.

5 A periodical is defined as: "A serial publication which constitutes one issue in a continuous series under the same title, usually published at regular intervals over an indefinite period, individual issues in the series being numbered consecutively or each issue being dated." American Library Association. Library Statistics: A Handbook of Concepts, Definitions, and Terminology. Chicago: ALA, 1966. p. 139.

Table II

GROWTH OF THE PUBLISHING INDUSTRY

	1930	1959	1966	Percent Increase, 1930-1966
Book titles produced	10,807	14,876	30,050	178%
Publishers of 5 or more book titles	217	382	560	158%
Volume of net sales	$146 million (1931)	$998 million (1958)	$2,000 million (1965 est.)	1,270%

Notes: Figures for 1930-1959 are from Cheney, *op. cit.*, p. 339.

Figures for 1965-1966 are cited in *Bowker Annual*, 1967.

The 30,050 titles published in 1966 are principally the output of American commercial (or "trade") publishers, but this figure also includes the publications of professional associations, scholarly reprints, microforms, and other nonconventional formats. It does not include newspapers or periodicals, government publications, or the more than 16,000 theses and dissertations produced during the year.

These 30,050 titles were published by 1,660 publishers, of whom 87 published more than 100 titles each. These large, general trade publishers are commonly thought of as producers of fiction and popular nonfiction, but the subject range of their publications is far wider. Most of these publishers have technical and business departments in addition to publishing textbooks in various subject fields and for many grade levels. The smaller publishers tend to specialize on a subject or format basis -- juvenile, medical, reprint, etc. New forms of publication -- e.g., programmed instruction texts, microform, computer-assisted instruction -- are being experimented with and will undoubtedly have an effect upon production and marketing by publishers.

1. Trade Publishers

The volume of net sales of the trade publishers in 1965 is estimated at over $2 billion, and there is no reason to believe that this figure will decrease in the future. There has been a steady growth pattern in the industry which can be attributed to a number of factors. First, the population growth has resulted in a larger number of people reading and buying books. Second, the educational level of the population as a whole has risen; concomitant with this has been a rise in the use of printed materials, both instructional and recreational. The tremendous expansion of educational systems, because of the increase in student population and the greater financial support, has greatly enlarged this market for both textbooks (sale of $585 million in 1965)[6] and general reading material. Greater availability of leisure time and the paperback revolution have combined to create a new reading public.

What share of this market for publications belongs to the library is difficult to determine. An estimate cannot be obtained directly from publisher sales figures, since libraries buy through such a variety of sources -- jobbers, bookstores, and processing services. The varying methods of collection and internal inconsistencies of library and educational statistics do not permit firm figures to be obtained from reported library materials budgets. Thus, the best that can be done is to make estimates on the basis of figures that are available. According to the Library Journal, "19 percent of the growth in the sales of the book industry from 1963 to 1965 is accounted for by libraries -- public, special, university, and school libraries."[7] These types of libraries spent the following amounts for books in 1965:

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[6] Boom in Books; with data on leading textbook and reference publishers. Magazine of Wall Street 119:29, February 4, 1967.

	Book Expenditures
Public	$ 73,000,000
College and University	78,000,000
School	93,000,000
Special	17,000,000
Total	$261,000,000

The total of $261 million[8] represents 13 percent of the total sales of book publishers in 1965. An earlier estimate of the library market for books appeared in the 1961 Bowker Annual.[9] According to this source, the estimated portion of publishers' sales for 1959 going into libraries amounted to 8.6 percent. These percentage figures are somewhat misleading, however, in that they refer to the total publishing output which includes many types of books such as mass-market paperbacks, book club printings, or devotional materials not commonly bought by libraries. Libraries purchase a far higher percentage of general trade books, juveniles, technical and scholarly publications.

If these figures can be assumed to be reasonably accurate, and the same proportions can be extended to other phases of publishing, then it is obvious that libraries represent a very small share of the total market. Even with federal funding for library service, presuming present levels are continued, it is doubtful that this percentage will increase to any great degree.

In general, it can be stated that the trade publishers account for the majority of sales to most libraries, excluding perhaps very specialized collections and the fairly new information or data centers. Public libraries probably represent the largest market for trade books, although these do not necessarily constitute the largest segment of their collections. School libraries buy trade books almost exclusively. It is noteworthy that approximately 80 percent of all childrens' books published in this country are sold to libraries and schools.[10] Academic and special libraries do purchase trade books, but spend a smaller percentage of their funds for these titles than for periodicals and scholarly publications.

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[7] American Library Directory charts library purchasing. Library Journal 92:523, February 1, 1967.

[8] Bowker Annual 1967.

[9] Bowker Annual 1961, p. 60.

[10] U. S. Congress. Senate. Committee on the Judiciary. Subcommittee on Antitrust and Monopoly. Alleged Price Fixing of Library Books. Hearings held on March 23, 24, and May 12, 1966. (89th Congress, 2d session. S. Res. 191) p. 128.

2. Government as a Publisher

The Government Printing Office (GPO) is established by law as the principal printing plant for the federal government. According to the U. S. Government Organization Manual, 1967-68, it is now the largest and best equipped printing plant in the world. Roughly 45 percent of its output is in the nature of notices, forms, and other miscellaneous printing, which does not concern the library world. In addition, 330 printing plants, organizationally independent of the GPO, are located in the Executive Branch. The Joint Committee on Printing has estimated that 60-65 percent of government publications are produced outside the GPO, either in these plants or through contract to outside agencies. Since the GPO views its primary function as printing, it counts its annual sales in terms of copies rather than titles, which makes comparison with commercial publishing difficult. Publishers Weekly made a count of 4,306 government publications issued in 1966, and An Economic-Media Study of Book Publishing[11] stated that there are 28,000 titles available from the Public Documents Section. The volume of sales for 1965 amounted to over $14 million. In addition, there is free distribution of over 7 million documents to 903 depository libraries.

This is only a portion of the government publication effort, however, as it does not include agency support to commercial or professional association publishing (e.g., IAA Abstracts, Applied Mechanics Reviews), or the voluminous amount of report literature generated through contracts and grants. Federal government publications are represented in almost all library collections. They range in type from popular pamphlets on agriculture or child care to standard reference tools such as the Statistical Abstract or tables of data from the National Bureau of Standards. The majority are announced in the Monthly Catalog of the GPO, and the more popular items are frequently indexes in such publications as PAIS (Public Affairs Information Service). Many of these are free, but most must be ordered from the Superintendent of Documents and either paid for in advance (by cash or coupon) or charged against a deposit account. Some materials can be supplied by the Department of Commerce field offices; the only commercial dealer is Bernan Associates in Washington, D.C.

State and local government publications, which have a somewhat more limited value to libraries, are collected primarily on the basis of regional interest. There are no statistics available on the volume of production or sales, and there is very little evidence of bibliographical control outside the Library of Congress' Monthly Checklist of State Publications and the individual states' listing of publications.

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[11] An Economic-Media Study of Book Publishing. New York: American Textbook Publishers Institute and the American Book Publishers Council, 1966. p. 37.

3. University Presses

University presses are commercial publishers, but they represent a particular segment of the publishing industry that should be considered separately, because of their importance to libraries. In 1967 there were 69 members of the American Association of University Presses, representing the major presses, each of which published five or more books in the preceding year. Since they are subsidized to a considerable extent by the institutions with which they are affiliated, they can afford to undertake the publishing of high-risk scholarly books and journals which will have a limited sale. It has been estimated that over 60 percent of their output is purchased by libraries. According to Time,[12] the 1965 sales of the university presses were five times those of 1948, and university presses now account for one out of eight nonfiction titles published in the United States.

4. Other Publishers

a. Newspaper and Periodical. Although these forms of publication account for a large share of library collections, it is difficult to describe them in numerical terms. One major subscription agent has estimated the number of periodicals, exclusive of "house organs" and free distribution journals, at 10,000 domestic and 20,000 foreign. Approximately 15,000 of the titles appearing in the latest edition of Ulrich's are published in the United States.[13] Ayer's[14] lists 11,316 newspapers and 8,242 periodicals published in the United States, but this figure is admittedly incomplete. One major omission is that of government serial publications, and the coverage of professional journals is inadequate.

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[12] Scholarly madness. Time 90:39, July 7, 1967.

[13] Ulrich's International Periodicals Directory. 12th ed. New York: Bowker, 1967

[14] N. W. Ayer and Son's Directory: Newspapers and Periodicals 1967. Philadelphia: Ayer and Son, 1967.

The 1963 *Census of Manufacturers*[15] lists 8,331 publishers of newspapers with receipts of $1,147,302,000 from subscriptions and sales and an additional $83,869,000 undifferentiated between subscriptions and sales, and advertising. It further lists 2,630 publishers of periodicals with receipts of $742,935,000 from subscriptions and sales and an additional $35,156,000 undifferentiated between subscriptions and sales, and advertising.

No definite figures are available as to specific amounts in library budgets expended on newspapers and periodicals, since they are so frequently reported together with binding costs. However, by interpolating from the percentages and total budgets reported in the *Bowker Annual* 1967, some estimates can be made for library expenditures in 1965:

	Expenditures for Newspapers and Periodicals
Public	$ 5,659,000
College and University	22,823,000
Special	8,483,000

No such interpolation is possible for school library budgets.

Sources of periodical publications include commercial firms limited to periodical publishing; commercial firms publishing both books and periodicals; federal, state, and local governments; professional organizations; and subject interest groups (e.g., Sierra Club)

b. *Microform*. This is a rapidly growing area with many trade publishers seriously considering the use of this format for original publications as well as for reprints. In 1965 there were approximately 55 publishers of such material (not including the federal government) producing over 10,000 items.[16] While much of such publishing is limited to scholarly reprints and back files of newpapers and periodicals -- the New York *Times* library edition is no longer printed on rag paper but on microfilm only -- combinations of techniques are producing items of general interest. Recently, University Microfilms microfilmed the original manuscript of Alice in Wonderland, then produced a full-size facsimile edition. Some professional societies are turning to this format for fast publication of conference proceedings and papers, for example, the Society of Automotive Engineers and the International Federation of Documentation.

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[15] U. S. Bureau of the Census, Census of Manufacturers, 1963. *Industry Statistics: Newspapers, Periodicals, Books, and Miscellaneous Publishing*, MC63(2)-27A. Washington: Government Printing Office, 1966.

[16] *Guide to Microforms in Print*. Washington: Microcard Editions, 1965.

C. Jobbers, Dealers, and Allied Services

The manner in which libraries obtain the products of, and work with, the publishing industry varies greatly. In fact, about the only generalization that can be made is that each library-supplier transaction is an individual act which neither establishes precedents nor indicates trends.

Factors which influence the mode of delivery are the size and type of library, whether it is an independent unit or part of a larger structure, and the administrative rules of the particular organization to which it belongs -- university, school district, county, federal government, industry. Another influencing factor is the geographical location of the library relative to sources of supply; obviously, libraries in large metropolitan areas will have greater access to sources of material than libraries in Alaska or in the Southwest.

1. Books

The prevailing pattern of acquisition of books by libraries in the past was through local booksellers. This pattern is still evident in some areas, but few local booksellers can provide sufficient stock or range of services to supply the entire needs of any but the smallest library. They may be utilized by libraries to supplement other sources, however, for such purchases as additional copies of popular novels for the public library. Booksellers are also in the position of not being able to match the discounts offered by either jobbers or publishers.

Wholesaler or jobber activity has increased greatly within the last few years. Some of the recent spurt may be attributed to the influx of federal funds into library budgets, particularly at the school level where these funds are frequently expended by school officials seeking a single source for procurement through contract. Another impetus for growth may well be the willingness of the jobber to deal with small orders consisting of individual titles, which publishers tend to discourage.

The quality of service offered by jobbers is often uneven, a factor that may be attributed in part to the sudden growth and opportunities for profit which have attracted entrepreneurs who tend to act simply as brokers, rather than as dealers. Such practices have been under scrutiny, principally in a study being undertaken jointly by ALA and the National

League of Cities,[17] which has as its objective the creation of standards, model procedures, and monitoring techniques for library purchasing. Libraries also are becoming aware of the value of service and order fulfillment as opposed to the size of the discount offered.

An important outgrowth of jobber activity is the development of some 40-45 commercial processing services.[18] The services offered range from the simple provision of Library of Congress or Wilson catalog cards to full cataloging and book preparation for circulation. These commercial services are currently being surveyed by the Resources and Technical Services Division of ALA.

The number of wholesalers and the dollar volume of their business is difficult to estimate. One leading jobber has estimated the industry's total volume of sales to libraries at close to $150 million annually.

Publishers, of course, are also in the business of selling directly to libraries, although they tend to discourage small, individual orders. (Many paperback publishers refuse to fill an order for less than 25 copies of one title.) Recent trends indicate that publishers are actively seeking library business through such means as standing-order plans (also available through jobbers), larger discounts than those offered by jobbers, and the supplying of catalog cards or even complete processing with their books.

2. Periodicals and Newspapers

There are only two sources of supply of periodical and newspaper subscriptions available to libraries -- direct from the publisher or through a subscription agent. The wide range of publishers in this area -- commercial, government, professional organizations, private groups, etc. -- in addition to the number and the sometimes ephemeral nature of their publications, makes ordering directly form the publisher a difficult and time-consuming operation. Although there are only slightly more than a dozen subscription agents who deal solely with periodical subscriptions, many dealers offer a combination of such services with the provision of back files of periodicals, searching for out-of-print materials, imports, etc. Because of the economics of the situation -- publishers must be paid in advance, while libraries pay only upon receipt -- these generally exist today as large systems, rather than as the small local dealer of past years. The margin of profit in this type of operation is quite small, especially when compared with the demand for services.[19]

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[17] Hensel, Evelyn. Libraries, Purchasing Agencies and Book Wholesalers. Paper read at Acquisitions Section of the ALA Resources and Technical Services Division in San Francisco, June 26, 1967.

[18] Letter from Barbara Westby, director or RTSD/ALA survey of commercial processing services.

[19] Personal communication from Dominick Coppola, President of Stechert-Hafner.

3. Other Dealers

In addition to the major areas described above, there are a number of specialized agents dealing with particular subject fields or formats, and frequently overlapping with book and periodical dealers. From the library point of view, one of the most important types is that of the periodical "back-issues" dealer. Occasionally this agent will also be a current subscriptions agent, a publisher of original materials or reprints, an importer, or a producer of microforms. Another area where the library finds it advantageous to use a dealer is in searching for out-of-print materials. These dealers frequently function as one-man operations, strongly subject-oriented.

The percentage of total acquisitions handled by such dealers is relatively insignificant in size, but of great value to certain types of libraries, e.g., those that are primarily research or reference oriented.

4. Binders

Binders are neither producers of library materials nor suppliers -- they operate upon library materials. In most instances, the binding procedure takes place after the library has acquired and used these materials; however, many children's books, which are not supplied by the publisher in heavy duty library bindings, are supplied by the publisher in printed sheet form to specific binderies who specialize in prebinding. The majority of binding done for public and school libraries is essentially repair work -- rebinding of books after heavy wear due to frequent circulation. On the other hand, most binding done for special libraries and college and university libraries is for periodicals. The "Permabound" technique, which provides an acceptable plastic binding for paperbounds, has greatly increased the acquisition and use of paperbacks in libraries, especially school libraries.

Many large libraries, particularly academic libraries associated with a university press, operate their own binderies and make very little use of commercial firms. The Government Printing Office, of course, operates its own bindery, as do many of the states. Of the commerical binderies, the approximately 150 members of the Library Binding Institute account for at least 9[illegible] percent of the library binding business. Their gross sales for 1965 amounted to over $16 million, and they anticipate an increase to $35 million by 1970.[20] This figure is undoubtedly influenced by the present rate of federal funding for libraries, which may not continue at such an accelerated rate. The impact of microforms as a substitute for bound volumes of periodicals has not yet been felt by the industry, but it is a factor that cannot be overlooked.

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[20] $35 million library binding market predicted for 1970. Book Production Industry 2:69, September 1966.

D. Library-Supplier Relationships

1. General

As was indicated in the preceding section, libraries account for less than 15 percent of the total publishing market, but they could not exist without the publishing industry. Therefore, any relationship between the two is bound to be one-sided. Yet, with the exception of a few specific instances (to be discussed below), the publishing industry has taken the major initiative in dealing with areas of common interest.

The majority of the trade publishers belong to the American Book Publishers Council, an organization that has attempted to serve the general interests of its members primarily through the collection and analysis of statistics, through acting as a liaison between the industry and the federal government, and through the promotion of book reading. The Council has worked closely with the library profession, and the ALA in particular, in the promotion of reading through its publicity and support of National Library Week, its support of the Library Services Act, its opposition to increases in postage rates on books, and its opposition to censorship and the abridgement of the freedom to read. The Council has also been a prime force in implementing the UNESCO Recommendation Concerning the International Standardization of Statistics Relating to Book Production and Periodicals,[21] which will assure that the various data collections (Bowker, OE, ALA, etc.) will have internal consistency and compatibility and thereby become more significant to the users.

One area where librarians have had an effect on the publishing industry is that of children's books. (As mentioned previously, it is significant to note that 80 percent of all children's books produced in this country are sold to libraries and schools.) Librarians have made their content and format needs known to the publishers, and they have been heeded. The Caldecott and Newberry awards for outstanding juvenile books have encouraged the high quality of writing and illustration. The need for special library bindings, or prebindings, was first voiced by children's librarians and then adopted by the publishing industry.

The hard use encountered in the circulation of children's books -- generally bound in inexpensive covers -- led to the practice of prebinding. Many publishers issue children's books in special library editions with reinforced bindings, and others sell the sheets of children's books to special binderies or wholesalers for prebinding. The larger libraries that operate their own binderies do this prebinding themselves either from sheets or from the regular trade edition. Dissatisfaction has been expressed by librarians with the quality of many publishers' reinforced bindings, and the publishers have responded with a request for library-approved standards. Performance standards for bindings used in libraries have now been issued by ALA's Library Technology Program, and, if they are adopted by the industry, this problem should be solved. However, the publishers' practice of charging net prices for children's books in library bindings was the cause of a particularly strained period in library-publisher relationships, resulting in the 1966 Congressional hearings on alleged price fixing of library books. Several of the larger public libraries felt that they were not getting as many books for their money as they should, and that this was the result of price-fixing on the part of publishers who enforced it through jobbers. No evidence of conspiracy on the part of publishers was found, and the Subcommittee on Antitrust and Monopoly took no action, awaiting a "cease and desist" order from the Justice Department.

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[21] Schick, Frank L. The national and international standardization of book and periodical publishing statistics. Library Resources and Technical Services 11:223-229, Spring 1967.

One activity that has been a point of joint concern for all types of published materials is that of copyright infringement. With the advent of fast, convenient, and relatively inexpensive copying equipment, there has been a rapidly increasing amount of copying of library materials. The Library of Congress, Photoduplication Service, for example, currently satisfies an average of 1,250 photocopy requests per week, an increase of 12 percent over last year. This LC service also furnished over 6 million feet of positive microfilm copies during FY 1967, an increase of 69 percent over the previous year.[22] This increased volume of copying is alarming to many publishers, who are the copyright holders in most instances, and who see the potential sales of additional copies of their works diminish as copies are made on-demand for reference and loan (expendable) use without requiring additional copies of the original publication.[23] Much of this copying has been for single copies in what has traditionally been referred to as fair use. However, this fair use is in the position of being grossly abused to the disadvantage of the copyright holder. Many libraries and information centers are distributing extensive amounts of copied material on-demand without prior approval of the copyright holder. Furthermore, many libraries and other organizations who provide coin-operated copying machines, or copying services for a fee, are making a profit on the copying of an author's work, with no share of the profit being returned to the author or publisher. Some libraries are very careful to control the type and amounts of material copied in their facility, and to interpret the copyright rules in a very strict sense, but those libraries seem to be in the minority.

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[22] Library of Congress Information Bulletin 26(38):634, September 21, 1967.

[23] Gipe, George A. Nearer to the Dust: Copyright and the Machine. Baltimore: Williamsn and Wilkins Co., 1967.

The situation will undoubtedly be aggravated even further with the proposed revision of the copyright bill which has already been passed by the House and is being considered by the Senate (S.597), as well as the continual improvement in the copying technology. The proposed copyright act is interpreted by some copyright attorneys to be somewhat stricter than the present law.

Another bill (S.2216) was introduced in the Senate in August 1967 to establish a National Commission on New Technological Uses of Copyright Works. The purpose of this Commission would be:

> "... to study and compile data on the reproduction and use of copyrighted works of authorship (1) in automatic systems capable of storing, processing, retrieving, and transferring information, and (2) by various forms of machine reproduction. The Commission shall make recommendations as to such changes in copyright law or procedures that may be necessary to assure for such purposes access to copyrighted works, and to provide recognition of the rights of copyright owners."

In additiion to the study efforts that might be supported by the planned Commission, there is also a study effort in progress by a nonprofit corporation, the Committee to Investigate Copyright Problems in Science and Education, Inc. (CICP). The CICP objectives are to:

> "...determine the facts with respect to the dissemination of scientific and educational information as it is affected by copyright, and (b) develop and to assist in the implementation of a plan under which making copies of copyrighted material might be suitably authorized on a basis fair to the owners of the material and to the makers, distributors, and users of such copies."

The National Academy of Sciences is also studying the probable impact of the proposed copyright bill, primarily from the point of view of the copyright relationship to computers and data processing. These study efforts may help to ease the strained relationships that surround the present and anticipated library use of copyright material.

2. Books

Contact between libraries and publishers is established initially in the acquisition process. Identification of titles is the first step. For the vast majority of materials that are obtained from commercial book publishers, this presents little difficulty. In addition to the publishers' own catalogs (freely distributed), there are a number of standard bibliographic tools covering this area. However, problems do arise through the occasional failure of publishers to provide complete bibliographic information in their advertising, especially in prepublication announcements. Sending out announcements of older, in-stock books without indicating the date of publication or the edition is a particularly objectionable practice. Efforts are being made to improve this situation by the Bookdealer-Library Relations Committee of ALA and especially by the American Book Publishers Council-Special Libraries Association Joint Committee, which in 1966 approved and issued a statement of Recommended Practices for the Advertising and Promotion of Books.[24] This recommendation also indicates data that should appear in the book itself to provide sufficient information to the purchaser.

A time-consuming and frustrating problem for libraries is the identification of titles published in small quantities by noncommercial publishers and marketed outside the regular channels of distribution. These may be of purely local interest or of value only to special interest groups; however, libraries attempting comprehensive coverage of a subject will need to acquire them. A particularly difficult example of this is the proceedings of some national conference, sponsored by a regional professional group that has an annual change of officers and no permanent secretariat; such proceedings are sold through the organization employing one or more of the officers of this group!

The product which the publisher supplies to the library -- the book -- has undergone considerable scrutiny by both publishers and librarians. In addition to the needs of the reader for legibility and convenience of size, libraries make other demands upon the physical characteristics of the book. Ordinarily a trade book circulates 25-30 times before needing major repair or rebinding.[25] In the past, this factor has discouraged libraries from extensive purchasing of paperbacks. New techniques of inexpensive paperback binding are reversing this trend, and the suggestion has even been made that libraries give away paperbacks or sell them in the library.[26] However, libraries now enjoy a tax exempt status which might be lost if they attempted to compete with business.

The process of actually acquiring a book by the library, once it has been identified, is one which creates the most conflict between the library and its suppliers. The library's aim is to acquire materials as quickly and as economically as possible; the supplier's object is principally one of profit. The modes of dealing with this conflict vary from library to library. Many are bound by the contractual regulations and arrangements of their supporting institute (e.g., government insistence upon procurement through one jobber at the lowest bid), while others are

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24. Recommended practices for the advertising and promotion of books. Special Libraries 57:507, September 1966.

25. U. S. Congress, op. cit., p. 3, 45.

26. Put bookstores in libraries, says Random House president. Library Journal 91:2787-2788, June 1, 1966.

free to shop for the best prices and services. Ordering direct from the publisher may eliminate the time lag required by a wholesaler, but may not if the wholesaler has a large stock. In some instances, a publisher will offer a larger discount than a jobber, but often this offer will depend upon the size and frequency of the orders. Most large jobbers offer some form of processing together with the books. This is an important factor to public libraries, with their needs for multiple copies of transiently popular materials (whichare often met through the use of book rental plans such as the McNaughton plan). It is also an important factor to the many school libraries without a full-time librarian. Indications are, however, that more and more publishers are considering offering such services.

The time lag between acquisition and circulation of books in libraries has been appreciably shortened during the last few years by the growing number of services offered by both publishers and jobbers. One of the most ambitious of these service projects, unfortunately discontinued for a number of reasons, was the "Cataloging-in-Source" experiment. This experiment was designed to test the feasibility of having the Library of Congress catalog new books from page proofs, and of having the publisher print the facsimile LC card in the book as it was published. The current Library of Congress MARC Project (Machine Readable Cataloging) promises a much more sophisticated format for such in-source cataloging, especially when combined with the machine tapes now offered by some dealers.

Dissatisfaction with present delivery times has been voiced by all facets of the library-supplier relationship. Undoubtedly the time lag between order and receipt has been increased because of the large orders being placed as a result of federal funding and the shortage of certain raw materials (cloth for binding) due to defense needs. However, this is not an entirely new problem; it was studied by the American Book Publishers Council in 1964.[27] Also, a meeting was sponsored by the Department of Commerce[28] to discuss bottlenecks in production and distribution in June 1966, and, as recently as February 1967, the joint meeting of the American Textbook Publishers Institute-National Association of College Stores[29] discussed the subject. Slow payment by libraries, especially school libraries, has been a major problem with jobbers who cannot always obtain extended credit from the publishers. The previously mentioned ALA-National League of Cities study on library purchasing will hopefully provide some solutions to these problems.

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27. Order Fulfillment Study 1964. Summary Report. Prepared for the American Book Publishers Council in cooperation with the American Booksellers Association by J. K. Lasser & Company.

28. U. S. Department of Commerce. Business and Defense Services Administration. Report on Meeting to Discuss Bottlenecks in the Production and Distribution of Books. Washington, June 30, 1966.

29. ATPI-NACS: problems of order-fulfillment. Publishers' Weekly 191:31-32, March 13, 1967.

Growing concern, particularly in research libraries, has been expressed about the rapid deterioration of the paper used in most books. In 1961 the Council on Library Resources funded a study on the permanence/durability of the book. This study was undertaken by the W. J. Barrow Research Laboratory, has been extended by ALA's Library Technology Program. Data produced as a result of this study indicate that, because of acidity, many modern book papers are expected to lose 20-50 percent of their folding endurance within an estimated 10-year period.[30] The Barrow Laboratory developed a permanent/durable paper with costs comparable to other quality papers, but so far this paper has had little use within the publishing industry. Additional studies on the deacidification of paper, as well as on methods for long-term storage (e.g., cold rooms), are now being conducted at the University of Chicago under a grant from the Council on Library Resources.

3. Periodicals and Newspapers

Serial publications of all types are a constant problem in libraries. They are hard to identify, difficult to acquire, expensive to buy, awkward to handle, and easily damaged or lost, but they are indispensable. They range in subject and type from local newspapers to abstruse financial data, from women's magazines to scientific journals, and from comic books to expensive art prints. They range in size from the Sunday New York Times to the hardcover American Heritage and the mimeographed Library of Congress Information Bulletin. In the larger public, academic, and special libraries, many of these publications are of foreign origin, causing additional difficulties in acquisition and payment.

The identification problem cited previously is intensified when dealing with periodicals. They are not issued by a well-defined body like the book publishers, and not all titles appear in the standard bibliographic aids. They are exceedingly temporal in nature, merging, changing name, and discontinuing without notice.

It is difficult to find a library of any size (regardless of type) that is completely satisfied with its method of acquiring periodical subscriptions. Whether the order is placed direct with the publisher or through a subscription agent, the date of delivery of the first issue ranges from six weeks to three months and sometimes longer. The same delay is experienced in trying to change an address or even an attention line. In order to ensure uninterrupted delivery, renewal orders must be placed months in advance of their expiration. It is frequently difficult to even place a subscription, much less obtain a full-year's issues or a complete volume, unless an order is placed several weeks prior to the beginning of the volume year.

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[30] Permanence/Durability of the Book: A Two-Year Research Program. Richmond, Virginia: W. J. Barrow Research Laboratory, 1963.

The lack of a firm price structure for periodicals presents another problem for libraries in their budgeting operations. The price of a subscription may be unavailable from bibliographic aids or from a dealer, thus requiring time-consuming correspondence with the publisher; prices change without notice, often within a subscription year; titles are discontinued and frequently the unexpended portion of the subscription is not returned. Often a publisher will announce a new journal without giving a subscription price and will set that only upon the basis of customer response; if the response is not adequate to provide a profit, then the journal never appears.

The main benefit from using a subscription agent rather than dealing direct with publishers is convenience. Discounts are becoming less and less of a factor, since few agents can afford to offer them except on the large circulation, mass-media publications. Publishers face the same situation in regard to discounts. By using a dealer, the library has the advantage of having someone else do the paperwork; correspondence is minimized, and payment can be made on one invoice rather than on several hundred. Frequently an agent will offer a "till-forbid" service, enabling the library to automatically renew its subscriptions.

The handling of periodicals within the library is far more complex than the processing of books. It is often difficult to find the correct title and/or issue of a periodical; the name or size may change without notice and in the middle of a volume; shipping containers or packaging tend to be flimsy, causing the contents to arrive damaged; unbound issues require some type of special shelving arrangement (e.g., sloping display shelves, Princeton files); and provisions such as binding or microfilming must be made for permanent storage.

Indexing and abstracting services form a special sub-group within serial publications. Most of the problems associated with the acquisition and processing of serials also apply to such services, but in addition they present far more variety in format -- cards, loose-leaf, etc.

Indexing and abstracting services are both indispensable (except perhaps to elementary school libraries) and expensive. They cover almost every subject field and are published by each type of publisher previously considered. In general, they are seldom profitable and require some sort of subsidy -- volunteer input, support of a professional organization or foundation, federal funding. The major exception to this generalization is the H. W. Wilson Company which publishes a number of subject-oriented indexes to the more widely used periodicals. These are sold on a service basis -- the fee to a library for a particular index corresponds to the number of indexes periodicals subscribed to. A number of other commercial services are available -- Current Contents, Solid State Abstracts, for example -- but most of these cover a highly specialized technical area and are subscribed to by relatively few libraries.

4. Report Literature

While this category is primarily applicable to and of interest to academic and special libraries, there is a growing use of such materials in the larger public libraries.

Reports may be singled out from other pamphlet-type or nonconventional format materials because of a certain homogeneity of characteristics. They are generally the result of R&D effort, issued by a corporate body or institute, supported by federal funding, difficult to identify and obtain, and they vary widely in quality of content and format. Bibliographic control of the report literature has improved considerably over the last few years, but much effort needs to be expended in the nondefense and nonspace connected areas.

Reports issued by government agencies, or by commerical firms as a result of contract work, while difficult to obtain because of proprietary interests or security control, may be more readily identified through the use of the various published indexes -- e.g., U. S. Government Research and Development Reports, NASA Scientific and Technical Reports. Unclassified reports may be obtained through the Clearinghouse for Federal Scientific and Technical Information. However, even though these reports are obtained from a government agency, they cannot be paid for with GPO coupons or a GPO deposit account; an entirely different system of coupons and deposit accounts must be utilized. A further complication in the acquisition of government publications is the still different system of coupons and deposit accounts required by the U. S. Patent Office.

Reports issued by private research institutions or by groups within universities are seldom covered by the major indexing and abstracting services, and are often identifiable only when cited in a monograph or journal. No dealer handles such material; orders must go directly to the issuing body or to the author. Pricing ranges from "free upon request" to nominal sums for covering handling and postage or to several hundred dollars for reports of market or investment analyses. In general, report publications in science and technology are more readily identifiable and obtainable than materials in the social sciences and humanities, primarily because of the great attention and funding devoted to these fields in the post-Sputnik era.

The techniques of physically handling reports within the library are similar to those encountered with periodicals. However, as an essentially monographic publications, they require considerable original cataloging since no agency like the Library of Congress makes any attempt to do this. Use of the recently issued COSATI standard[31] and the new

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[31] Federal Council for Science and Technology, Washington, D.C. Committee on Scientific and Technical Information. Standard for Descriptive Cataloging of Government Scientific and Technical Reports. Revision No. 1, October, 1966. AD 641 092. PB 173 314.

Anglo-American Cataloging Code should improve this situation. The growing use of mircoform (principally microfiche) as a publication medium for report literature does present problems for the library in terms of storage and equipment for reading and printing.

5. Nonconventional Format Materials

Audio-visual materials (filmstrips, phonorecords, maps, etc.), while of great importance to libraries, especially school libraries, will be excluded from this discussion since they will be examined in detail in another study being prepared for the Commission.

Microform is rapidly becoming the most widely utilized nonconventional publication format in library collections. It presents many of the problems of acquisition described previously, while creating some peculiar unto itself. One of the major problems has been that of standardization of physical format -- microfilm (16 or 35 mm, sprocketed or unsprocketed), microcard or microfiche (3 x 5, 4 x 6, or tab card size, variable number of images per card). Each of these forms requires different methods of handling and storage, as well as different equipment for viewing and printing.

To date, aside from books and forms noted earlier, very little collecting of programmed instruction materials and machine language records (computer tapes) has been done by libraries. There is no doubt that such collecting will increase, and steps should be taken to ensure standards of format and bibliographical control before these collections become unmanagable.

E. Summary and Recommendations

Library expenditures for published materials are increasing. The current increase may be attributed in great part to federal funding, but even with a decrease in this source of funds, library spending will continue to expand. Such spending will not necessarily change the percentage ratio of the libraries' share of the total publishing market, although it will undoubltedly influence certain sectors of the publishing industry.

The method by which libraries obtain the products of the publishing industry vary greatly. These methods include: direct purchase from the publisher, purchase through a jobber -- with or without additional processing, purchase from the federal government, exhange, and gifts.

Problem areas between libraries and suppliers are:

- Misleading advertising
- Lack of accurate bibliographical information
- Delay in shipments
- Too many "out-of-stock" and out-of-print items

Poor quality of format
Poor quality of service
Varying price structures
Indefinite copyright status

Problem areas between suppliers and libraries are:

Lack of information in orders
Unreasonable time restrictions
Excessive demands for service
Burdensome red tape
Inordinate delay between delivery and payment
Indefinite copyright status

In order to better identify the various facets of the library-publisher-supplier relationship, more complete and compatible statistics are mandatory. The establishment of U. S. Statistics Standards for books, periodicals, and newspapers, currently being drafted by the Statistics Subcommittee of USASI/Z39 in conformity with the UNESCO Recommendation,[32] would provide consistency lacking in present compilations. It would also include items such as government publications and "house organs" which are of value to libraries, although lacking in commercial value.

The recent ALA handbook on library statistics was an attempt to create the same sort of standard for reporting of library statistics. Unfortunately, it is lacking in consistency among types of libraries, making comparisons invalid. The U. S. Office of Education is collecting fewer and fewer library statistics, suggesting that perhaps this should be the responsibility of some other federal agency.

There are no current efforts being made to collect statistics concerning jobber or subscription agent activity similar to those being undertaken for the publishing industry by the American Book Publishers Council or the R. R. Bowker Company. This definitely needs to be done, though it is difficult to determine who should have this responsibility.

The establishment of standards other than for statistics would also be of benefit to the library-publisher-supplier relationships. Some of these -- for advertising practices, binding, microfiche, durable paper, etc. -- have been proposed, but not accepted universally. The use of the standard book number has been accepted by the major publishers and should be strongly urged upon publishers of all types of materials. Adoption of this scheme would clarify the problems of identification now plaguing libraries, publishers, and suppliers. The acceptance of a similar identification system for periodical titles (e.g., CODEN) is strongly recommended. In addition, more effort should be expended by

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32. Schick, op. cit.

periodical publishers in clearly identifying specific issues as to volume, number, and date. Preferably, such information should appear on the spine or front cover of the issue.

Since the application of these standards would be of most benefit to the libraries -- it would seem reasonable that the formulation of such standards be undertaken by the library community. Initial effort in this area has been undertaken by the Library Technology Program and those projects funded by the Council on Library Resources.

The newest member of the library-publisher-supplier relationship is the jobber-processor. A definite need exists for the establishment of an industry organization, similar to the American Book Publishers Council and the American Textbook Publishers Institute, to collect statistics and to set performance standards. This is of particular importance with the growing use of commercial processing centers by libraries, offering as they do such a variety and quality of services.[33]

Continuing studies on the problems arising from both the present and proposed copyright law should be undertaken by both the publishing industry and libraries. Some studies, such as the Copyright Permissions Clearinghouse for Project ERIC and the ASTM-CICP agreement, are currently underway. A specific question to be answered is: what are libraries actually copying and what percentage of this copying is copyright material?

Since many of the problems affecting library-publisher-supplier relationships arise during the acquisition process in libraries, it would be helpful to undertake a study of such processes in various types of libraries. Elements to be studied would include the types of published materials purchased, the quantity, the sources of supply, and the library cost figures for the various steps involved in the acquisitions process.

One of the specific acquisition problems of concern to many libraries is the variety of coupon systems and deposit accounts required in dealing with government publications. This problem could be solved through the issuance of a common scrip or coupon system to be used for the purchase of GPO publications, reports obtained through the Clearinghouse for Federal Scientific and Technical Information, patents, Library of Congress catalog cards, and any other government agency publications.

Publishers and libraries and suppliers exist in a symbiotic relationship which they too often ignore. The best way to improve this relationship is through communication. Continuing dialogues along the lines of the Bookdealer-Library Relations Committee of ALA and the American Book Publishers Council-SLA Joint Committee are to be encouraged and extended to other aspects of this relationship.

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VI INDUSTRY AS A SUPPLIER OF LIBRARY EQUIPMENT AND SUPPLIES

A. General

Libraries and library-like organizations purchase a considerable quantity of equipment and supplies from a variety of sources, most of which are operating in a competitive environment. A check with several sources disclosed that the principal suppliers today are primarily the same ones that served the library field 15 years ago. Some diversification and expansion through corporate mergers and acquisition has occurred, with accompanying shifts in marketing emphasis and product design; however, there has been a relatively stable pattern, with the top suppliers of the 1950's still enjoying the same relative positions today. As in numerous fields, the sales are dominated by a few companies, though many are active in the competition. The "Directory of Suppliers" in the 1967 purchasing guide issue of the Library Journal[1] lists approximately 475 firms, including many book-jobbers, processing services, etc., as well as hardware suppliers. Some of the major suppliers (e.g., Bro-Dart) have been established to serve the library field exclusively. Others, (e.g., Remington Rand Library Bureau) are divisions of companies which concentrate their attention on the library field while the parent organization works in a great variety of fields. Some suppliers consider libraries a nuisance field, to be covered with a low priority effort.

A study made during this project of the selling attitude of manufacturers indicated that most manufacturers view the libraries as a growth market, characterized as "varying volume-unsteady-marginal." The few organizations have have successfully penetrated, and now dominate, certain areas of the library market, characterize it as "high volume-rising-predictable." These finds are based on a survey of the available literature, as well as on 10 interviews with manufacturers or their representatives. (See Appendixes 1 and 2)

Most of the sales are made directly by representatives of the industrial firms; relatively little use is made of distributors or retail sales outlets. As shown in Table III, the purchase of equipment and materials (excluding books and other reading materials) accounts for around 3 to 7 percent of the average library budget. This money is spent for a variety of types of items, including office equipment, special furniture, bookmobiles, microform viewers and associated equipment, and wood or steel shelving. Some of these specific items are discussed in Section B of this chapter. The library as a marketplace for manufacturers presents a number of severe marketing problems and obstacles to technical innovation, and these are discussed in Sections C and D.

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[1] Library Journal 92:1433-1466, April 1, 1967.

Table III

REPRESENTATIVE LIBRARY EQUIPMENT EXPENDITURES

Source	References	Total Expenditures	Equipment Expenditures	Equipment Expenditures as a Percent of Total Expenditures
LSCA expenditures FY 1957-1966	1	$404,973,000	$15,396,000	3.8%
LSCA expenditures FY 1962	2	26,418,907	1,072,979	4.1
LSCA expenditures FY 1963	2	26,779,621	677,271	2.5
LSCA expenditures FY 1964	2	27,587,111	700,594	2.5
LSCA expenditures FY 1965	2	113,167,320	3,780,939	3.3
LSCA expenditures FY 1966	2	133,665,134	3,195,671	2.4
LSA expenditures FY 1957-1961	3	79,775,198	5,649,466	7.1

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2. Letter with enclosure, U.S. Office of Education, Library Program and Facilities Branch, Washington, D.C., August 7, 1967.

3. U.S. Office of Education, State Plans under the Library Services Act, Supplement 3, Washington, D.C., 1963. OE-15012-61, Bulletin 1963, No. 14, p. 163.

B. Volume of Activity

There are no reliable sources of published information regarding the volume of equipment or material sales to the library market. It was therefore necessary to establish a number of estimates from a variety of sources in order to obtain some order-of-magnitude figures. Thus, the data in Table are very tentative estimates based on discussions with representatives of the individual manufacturers, publications in the trade journals, company annual reports, and representative library budgets.

The library market is a vast complex of 25,000 to 30,000 facilities, organizationally autonomous but financially dependent on a parent organization or a municipality. Each library is a service agency caught between the demands of readers and the limited financial capacity of its parent.

To give an example of the size of this market, the library system is four times larger than the 7,200-hospital complex of the United States. It has as many different types of libraries as the hospital system has types of hospitals. It has little or no earning power to supplement its budget.

The library market for new products is growing. Annual expenditures confirm this. Its rate of growth is slow and uneven except in the area of limited applications of computer technology and copy reproduction processes. For many products, the library market is marginal and a questionable investment area.

Libraries do not have uniform buying practices or habits. Being financially dependent on a source of funds, they must acknowledge the practices and prejudices of the parent organization. Libraries, perhaps because they are service agencies, do not fully understand or appreciate the problems of the profit oriented manufacturer.

Capital equipment has a very low priority in the library budget and normally includes the following diverse types of equipment: computers and data processing equipment, shelving and cabinets, copying and duplicating machines, dictating and transcribing machines, microform viewers, calculators and adding machines, postage meters and other office equipment and furniture, phonographs, headphones, gluers, film splicers, projectors, sand urns, planters, trimmers, clocks, circulation control equipment, turnstiles, and newspaper sticks. The amount of activity in several of the major categories of equipment is discussed below.

1. Shelving and Library Furniture

New concepts in library architecture, along with demands for more attractive and colorful interiors and library furnishings, have stimulated considerable competition in the library shelving and furniture market. Another significant factor that has influenced market growth in recent years is the availability of federal and state financial aid to libraries and education. Established libraries may retain old furniture, but new libraries require purchase of new furniture.

Pryce[2] observes that "Lightness of line, strength and durability without bulk, and utility without severity have been the theme for architecture and its furnishings over the last few years. In its wake have come revised concepts in materials, in material applications, and in construction. The trend to design-conceived interiors, and demands for imaginative, colorful, yet practical furnishings, both technical and casual, have opened a wide field of interest. This, coupled with the expanding growth and opportunity in the library furnishings field, has resulted in a refreshing competition for the library furnishings market and has stimulated expansion of research and facility improvement programs among the manufacturers."

The growth rate of the library furnishings market appears to have averaged from 10 to 15 percent per year during the last decade and probably will continue at a comparable rate for the next five years. It probably was higher during the 1964-1967 period, due largely to the availability of federal and state support. Approximately 65 percent of the library furniture and shelving market is in the wood lines, with 6 of the total 30-40 suppliers accounting for about 85 percent of the wood sales. The steel portion (35 percent) of the market, mainly shelving, is similarly characterized, 7 dominant suppliers accounting for over 80 percent of the sales. California Attorney General Lynch recently claimed that 95 percent of all metal shelving sold in the United States is produced by 7 manufacturers.[3] Other than the recent antitrust litigation concerning market allocation and pricing practices, investigations to date have revealed no major national shelving and furniture marketing problems with libraries.

On the matter of innovation, the leading suppliers agree that each company must conduct an aggressive and continuing internal research, development, test, and evaluation program to remain competitive. The introduction of a spectrum of new standard colors by one manufacturer is one example of innovation.

Recently, increased emphasis has been given by designers and library consultants to the comfort and efficiency of the library patron. Accompanying emphasis by manufacturers on overall durability and quality of construction, coupled with the anticipated growth in new library facilities, may develop a market in replacement and renovation efforts as well as in supplying new installations. This does not necessarily follow in the metal shelving field, where new library shelving is constantly needed to accommodate the increasing volume of new materials, and existing shelving is relocated for high density, compact storage of less used materials. The greater use of microforms and EDP equipment will have an increasingly important effect in storage and library equipment planning.

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[2] Pryce, Stephen D. The materials and construction of library furniture. Library Trends 13(4):396, April 1965.

[3] Los Angeles Times. February 7, 1967.

2. Microform Equipment

As in the case of market information concerning the shelving and furniture suppliers, the literature is devoid of specific data concerning the volume of sales or production of microform equipment for libraries. However, it is estimated that there are presently about 12,000 microform viewers in operation in libraries today.

The significant changes in microfilm technology and the emergence of new micro-media (microfiche, cartridged film collections, aperture cards, etc.) of varying physical sizes, form, and reduction ratios during recent years have been accompanied by an effort in redesign, innovation, and diversification by the equipment suppliers. The trend toward much less expensive, more portable readers for desk-top use is sure to increase the acceptance of this type of equipment. The U.S. Patent Office, for example, is already considering installation of several hundred viewers in its public reading room.

Microform readers and reader-printers did not come into general use in libraries until the late 1950's. During the 1960's, it became essential for most libraries to have additional readers for their users to read the increasing amounts of material that became available in microform. The replacement program could hardly keep pace with the innovations in microform technology.

With the establishment of standards and more uniform practices in the publication and distribution of microfiche (sheet microfilm), librarians face another surge of equipment replacement during the 1965-1970 period. This is not to say that the older readers will be discarded necessarily, but their use is limited to those sizes and types of microcopy for which they were originally designed. Most equipment suppliers have introduced a variety of more general purpose devices to read, or to read and print from several types of microforms (e.g., roll film, microfiche) at a fraction of earlier viewer costs. The "library market" might have been overlooked or regarded as a nuisance factor during recent years by microfilm equipment companies because they were concentrating their attention on the engineering drawings and specifications field (in-plant use by engineers, technical writers, etc.) as well as other business applications. The microfilm market is relatively young and dynamic, and it can be expected that new firms or coalitions will move in quickly to exploit its potential.

Librarians and library patrons have shown a general reluctance to accept the inconveniences of microforms. However, use patterns are changing as more comprehensive and accessible collections of material become available in microform, particularly those items not previously available to a user in another form. Improved convenience features in both the microforms and viewers may be expected also, as the market achieves enough importance to warrant attention to these factors. It is entirely possible that as secondary school students become more familiar and accustomed to the use of these devices earlier in their educational years, they will expect to find and use them as commonly as other tools (e.g., slide-rules, desk calculators, microscopes). Libraries in the future might even be expected to stock small, inexpensive portable units for student loan, and if unit prices ultimately become comparable to those of the transistor radio, there could be a greatly expanded market.

3. EDP and Computer Equipment

In 1950, almost no funds were spent by libraries for the purchase of data processing equipment. During more recent times, there has been considerably more library use of data processing equipment. Most of this equipment is owned or rented by other organizations (e.g., service bureaus or central computer facilities). Only about a dozen libraries in the country today have a computer facility for their exclusive use.

A mail questionnaire survey made in 1966 by the ALA Library Technology Project revealed that 638 libraries were currently using data processing equipment, but only about one-third of these installations were owned by the libraries or their parent organizations.[4] The largest part of this use involves punched card equipment or small computer systems. No information is available on the amount of money actually spent for these purposes; however, a gross estimate is approximately $5 million per year. The same ALA study reported that 942 libraries had authorized plans for automation. It would be foolhardy at this time to make any projections for this field on the basis of the relatively scarce data; however, it is clear that there will be a continuing expansion of the installation and use of data processing equipment.

4. Book Charging Equipment

Following the failure of experimental book charging machines in the early 1900's, little attention was given to the development of this type of equipment until the late 1920's. Improvements upon the original manually operated machine came about during the mid-1930's. The subsequent development of photographic chargers opened up an entirely new concept of machine charging and the use of numbered transaction cards which serve also as date due cards. Many innovations have since been introduced using audio equipment, microfilm and credit card type chargeplates, and data processing terminal equipment.

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[4] The Use of Data Processing Equipment by Libraries and Information Centers. New York: Creative Research Services, 1966.

C. Characteristics of the Manufacturer

The information for this section came from the 10 manufacturer interviews mentioned earlier, as well as from discussions with industrial representatives. One of the more general findings of these discussions is that the manufacturers' greatest difficulty lies in the area of new product development and promotion. The study revealed that the interest of the librarians in these products is keen but that their buying ability is limited. The manufacturer is beginning to recognize this fact.

The library market has been made aware of many manufacturers of new products. Few of these manufacturers are old line library materials and equipment suppliers with an established distribution and sales organization. Most have been introduced to the library through their development of some of the more elaborate federal information systems, or through contract studies in the information sciences. Some had received equipment developmental contracts and were trying to convert this equipment to production and commercial sales.

Some of the unevenness of the library market can be attributed to the manufacturers' inexperience with the library field. A number of manufacturers were trying to introduce new products without having the necessary marketing organization or experience in commercial sales to libraries. This is particularly surprising because general management practice is to avoid the combination of new product and new market.

Three of the manufacturers interviewed were trying a high-risk investment. In every case there was a lack of acknowledgment of risk, accompanied by a strong, almost emotional, conviction that the particular product or at least the type of product was here to stay and that the market was up for grabs.

In two cases the manufacturers were trying to exploit commercially some equipment they had developed with support from the Council on Library Resources (CLR). Both companies had been successful on federally supported equipment development ventures where the profit was low (5 percent to 9 percent before taxes), but the risk of loss was minimized. The attempt of CLR to introduce new products to the library field by underwriting developmental costs for certain worthy products was commendable and should have had a better than even chance for commercial success. It is a testament to the new market-new product rule of thumb and the complexity of the library market that these two CLR-supported products have yet to realize a full profit potential.

To the uninitiated manufacturer, the surface signs for market entry were favorable. Various versions of favorable signs were offered by the manufacturers interviewed. These included:

1. Considerable buying interest seen by the manufacturer. The librarian is enthusiastic about new devices. Many librarians solicit product information (and are usually surprised when a salesman follows up on the inquiry). The information-handling problem is critical, and the librarians appear to be interested and committed to its solution. Courses in information sciences are being offered in schools of librarianship. The felt need for technical and product information led to the establishment of the ALA Library Technology Project, now the ALA Library Technology Program. Library meetings feature automation speakers. The CLR minimizes investment for needed products.

2. Buying power appears sufficient. The federal government has been investing heavily in information and library systems. The gross income of libraries has been rising. Equipment purchases have been increasing. Automation studies have been funded by local libraries. Mechanization has been included in the long-range plans of many libraries.

3. Open competition seen by the manufacturer. No competitor seems strongly established in the library field.

4 Manufacturers' available manpower due to decreases in federal R&D support. The manufacturer has been exposed to the library problems via the many publicized projects for organizations such as the Library of Congress, Department of Defense, National Library of Medicine, and the American Chemical Society. The manufacturers' staffs who worked on these projects could be assigned to projects on other library systems.

At the same time, in one very large organization that makes significant sales to libraries, only one staff member was recognized as a library expert -- a testimony to the fact that most manufacturers do not have any great depth of awareness or acquaintance with libraries.

The character of the manufacturer is best described as naive and groping. He normally depends on published statistics instead of developing his own marketing analysis. He knows the library is a complex market and tends to blame the complexity on the idiosyncracies of librarians.

D. Characteristics of the Market

The information in this section was obtained from the previously mentioned interviews with manufacturers, the survey of libraries,[5] and the staff's prior knowledge in this area.

1. Buying Authority

Buying authority varied from library to library. Some librarians had power of attorney up to the level of their approved budget. Other librarians were authorized to initiate purchase requests while the final, legal authority was retained by a comptroller or purchasing agent of the parent organization. In all observed cases, the request of the librarian was not challenged if the expenditure could be supported by available funds.

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[5] See Appendix 2.

Flexibility within the limits of budgeted funds was very limited; for example, one expensive copier could not be purchased in lieu of two less expensive copiers even when total cost was not exceeded. Year-end residual funds could not be transferred to equipment accounts.

Justifications for purchase, written or oral, preceded or accompanied equipment requests. The definition of a major purchase varied from library to library; the requirement for a justification or explanation varied accordingly.

No library had a consistent, year-to-year, minimum capital equipment budget. Rate of capital equipment growth tended to be spasmodic with widely varying highs and lows. This fact, coupled with the inflexibility of budget manipulation within the limits of gross budget, prevented those librarians with signature authority from effectively planning ahead.

Only one of the manufacturers' representatives was intimately aware of the structure of libraries. Others had a general awareness of libraries but could not go into the details of organization, budgets, and buying procedures.

One interviewee was a salesman for a nonmanufacturing group that specialized in representing manufacturers' products. This group had inventoried 10 microfilm viewers at a 20 percent discount below retail cost. This was the salesman's first exposure to libraries. He had approximately 20 years' experience as a percentage salesman and had been modestly successful. In six months' time, he had sold only one of the viewers, even though interest in the device was favorable, the price was low, and home office and factory support was good. He had made approximately five calls a week on libraries. Half of these were factory referrals (from mail inquiries and trade show inquiries). Many of the calls were repeat, follow-up visits. This salesman's customers represented an affluent cross-section of the library community, i.e., new facilities, gross income exceeding $500,000 per annum, large library staff. His product sold for less than $200. He failed to understand why, when there was no resistance from the person interested in buying and authorized to buy, the device had not sold. His organization hoped to sell its inventory and then planned to discontinue handling the product; it had no plans for handling other library products.

Buying authority of the librarian seems to be increasing slightly. Greater awareness on the part of the librarian, which makes his budget presentations more effective, accounts for the increase. No formal change in actual buying authority was observed.

2. Buying Influence

How and where does an equipment request originate? Who has influence on a purchase? These are the questions that face a salesman; the answers determine who he visits and how many follow-up calls are made. If a library is listed by the manufacturer as a home office account and the salesman is not working on commission, he can be liberal with the number of calls he makes on a customer. He tries to see that his product is well represented. However, the need to make numerous calls on one customer can be troublesome to a commission salesman.

The number of people who can influence a computer purchase or some other large purchase for a library is large. No library is the sole proprietor of a computer in its organizational family; that is, the university library with a computer also has a university computer center which influences the selection of the library computer.

On smaller purchases, central buying groups do not enter into the picture, but libraries tend to be influenced strongly by other libraries. In two interviews, for example, the librarians voiced an opinion on what they considered the best facsimile system on the market. Both librarians had seen demonstrations of the facsimile systems, had formulated their opinions from judgments of other poeple, and then had asked for a demonstration. Neither one had a budget authorization; neither one had conducted a thorough evaluation of his own. Both would have liked to buy the facsimile systems for interlibrary loans, and both agreed that they were not yet ready for it.

One engineering sales representative offered an interesting opinion that may explain why a very costly computer could succeed where communication facsimile devices are still struggling. According to his reasoning, the computer appeals to the emotions of progressive librarians and yet satisfies the disciplinary accounting attitudes of those who authorize library budgets. The computer secured a foothold in the library system by way of the accounting office, whether it was the city administrative office or the college comptroller. The librarian himself contributed heavily to the system design of actual computer library applications. In effect, the librarian sold himself on the utility of the computer in the library.

This sales representative further claims that accurate cost effectiveness studies have not been conducted on computer applications in libraries. Cost effectiveness is usually associated with purchase justification and since justification, to the librarian at any rate, is not required, the study of costs has not been made. The fact that little data on costs of existing systems has ever been collected will delay cost effectiveness studies in the future.

The copying machine is becoming commonplace in the library for other reasons. It plays a strong role in interlibrary loans because it helps solve one of the nagging problems of the librarian -- how to cooperate with loan requests and still retain the material for the library's own patrons. And while cost studies have not been made, it appears obvious that allowing a user to make his own copies at a price improves service at little staff or maintenance cost. However, the possibility of making a profit for the library is dismissed because of copyright conflict. In all but two of the libraries surveyed in this study, the copying machine was rented instead of purchased, in spite of the fact that a purchased machine could produce a higher income than a rented machine.

Within the library itself the choice of the librarian or of his delegated representative regarding equipment seemed to be accepted. Budgets were questioned, but the selection of a product was not. Library staffs would question the product's utility but not the selection of one product over another of the same type.

The more conservative libraries tended to lean away from the products associated with the new technology. Their reasons were usually based on costs. They tended to invest in their collections what money they could appropriate. These were private opinions strongly expressed to a limited audience, and their effect on librarians who chose to invest in capital goods seemed to be small.

In general, buying influences varied with the size and complexity of the equipment purchased, how this equipment was being used in other libraries, and whether it was to be used for handling specific materials. The range and complexity of buying influences seemed to be no greater than for other products being marketed in other fields.

3. Turnaround Time

Elapsed time between purchase (or bid) announcement and contract award is the usual definition for procurement turnaround time. When the product is not purchased on competitive bid, turnaround time is short. When the product is purchased on competitive bid, turnaround time includes bid preparation, submittal, evaluation, pre-contract negotiations, if any, and contract award. Total elapsed time for the competitive bid may extend from 30 days to as long as a year.

Manufacturers need to know turnaround time for workload planning. A probability-of-capture factor, added to the estimated contract award date, tells them what might be expected and when the workload might occur. The information is used to schedule production runs, to plan the level of inventory required, and to estimate the effect that the order will have on plant overhead.

This subject was not included on the questionnaire, nor was it brought up during any of the interviews, since it is quite apparent that libraries generally do not rigorously schedule procurement cycles on competitive bids. The salesman learns how to adapt to this problem but he and the manufacturer are often left with a lack of confidence in the library's intent to buy.

A number of explanations for the lack of precise procurement data have been offered. First, the comparatively small annual capital equipment outlay of the library does not call for procurement scheduling. Second, libraries have not been exposed to commercial business problems and the need for this data. And, finally, the library is accustomed to open, partially filled, book purchase orders which linger for long periods of time.

4. Continuing Sales

Difficulties encountered with an initial sale can be offset by additional orders once the product has been tried and accepted. A reorder can come from the library to which the original sale was made, a branch library, a cooperating library, or a distant library using a common communication network. Continuing sales are a factor when the investment in the original sale is high. Because libraries are not volume buyers, continuing sales are important.

The questionnaire survey showed that capital equipment funds were used for a large variety of items which were always bought in small quantities. The survey did not reveal whether some of these items were bought through a central purchasing office which might have added an additional quantity to the library order.

Visits to various libraries showed that few products were used in large quantities. Disconcerting to the manufacturer is the fact that librarians may change manufacturers when repeat orders are placed. The competitive nature of the market gives the librarian the opportunity to buy improved and competitive new products when additional items are required.

The rising trend in interlibrary cooperation resulting in consortiums, may soon help the manufacturer by placing him in the position of selling two or more libraries simultaneously on the same product.

5. Product Promotion

Introducing a product to a new market is costly. Promotion involves advertisements in journals, product descriptions, technical notes or memos, mailings, demonstrations, and exhibits at society meetings and trade shows.

A meeting exhibit might typically account for expenses in excess of $5,000, including the space rental, the exhibit itself, shipping costs, travel and salaries. One manufacturer felt that costs of promotion to libraries were not higher than costs of promotion to any other new market.

6. Compatibility with Other Markets

Two of the manufacturers interviewed were depending on other markets to carry them through the library market buildup period. They recognized that libraries have funding problems. They were counting on the enthusiasm of the librarian for their products and, as one termed it, "the inevitability of change (of library techniques)," to develop market momentum.

Fortunately, their products are adaptable to uses in other markets, or conversely, products developed for other markets are adaptable to the library. Development costs therefore can be amortized against another market and the library can be considered a second, expansion, market.

Data processing equipment and computers are the obvious examples of the library adapting to a product. The only parts of these equipments that are unique to the library are the programs developed for library applications. This investment is minimized because the original work has already been done, much of it with the assistance of librarians, and because these programs may not differ significantly from library to library.

Microfilm and microfiche equipment are being developed and marketed primarily for business and engineering applications; libraries represent a secondary market. Business uses, for example, would include the inventory and handling of large numbers of parts. Audio-visual equipment manufacturers look at educational systems as a primary market and libraries as a secondary market. This type of equipment also has other secondary uses in business applications.

The compatibility of the library market with other markets for certain products raises a question posed by one of the librarians interviewed: "What about the unique library problem, and where is the product that must be custom-designed for the library?"

In answer to this question, one manufacturer's representative claimed that there was no equipment problem unique to the library so far as he could see, and that, even if there were, the buying potential of the library at this time hardly justified a special equipment development for libraries. The existence of this attitude seems to be one of the most important findings of this part of the study.

7. Other Marketing Factors

One major difficulty encountered by the manufacturer approaching the library market is his inability to do any accurate or effective market planning. This problem can be traced to the manufacturer's inexperience with libraries, his lack of depth in personnel acquainted with library problems, the very large number of sales contact points (i.e., the number of libraries in the United States), the individuality of librarians, and the absence of development, production, and distribution rules of thumb for the market. A good market plan would include a reasonable estimate of gross annual sales, recurring costs, nonrecurring costs, competitive products, cost of sales, make-or-buy trade-offs as a function of plant labor and material costs, break-even point, and the point of regaining investment.

Gross estimating, based on a superficial examination of the market, was observed in many of the interviews. In areas where facts were available they covered a narrow segment of the total library market. In only one case was an opinion backed up by successful cultivation of the market.

One manufacturer's representative claimed that detailed market planning was not necessary for a low volume market such as the library and that market planning was characteristic of large production programs. When this claim was repeated to another repeated to another representative, the second representative said that planning was even more necessary for low volume markets because of the high dependence on profit from each sale.

None of the representatives carried a variety of products for libraries. Most of them had numerous folders describing different models of the same product. Their sales contacts depended on a response to the initial product. This was followed by a description of the different models and what type of model would best suit the needs of that library.

8. Return on Investment

No manufacturer was willing to discuss return on investment for a particular product. It is quite likely that accurate profit (or loss) figures were not available for the library market for a number of reasons, such as the fact that accounting procedures do not often enter the precise allocations of a salesman's time to different sales efforts.

The sales figures that were released were misleading. In one case, the manufacturer claimed that 2,000 microform viewers had been produced and sold. One of the manufacturer's distributors said that he had an outstanding inventory (purchased at a distributor's discounted price) of 20 units. In this case, the manufacturer was right but the implication that all 2,000 units had been bought by consumers was misleading.

Return on investment is the critical factor in market promotion. There is a point at which all investments have been recovered and all profits accumulate thereafter. The longer it takes to arrive at this point, the longer the product must remain on the market to be effective. In this light, it is understandable why a manufacturer loses confidence when a market takes a long time to develop.

E. Summary and Recommendations

Until recently, the library equipment market has been relatively static and unattractive to all but a few suppliers, principally furniture and shelving manufacturers. Largely as a result of the low priority accorded capital equipment in library budgeting, there has been little inducement for either existing or potential suppliers to enter or even seriously study the market. Consequently, little is known of the complexities and nature of the market, either by librarians or the manufacturers and suppliers serving them. The majority of equipment and supplies used by libraries have other business applications, and library adaptations are of secondary consideration. Lacking sufficient market importance to encourage manufacturers in the design and development of specialized equipment, librarians have had to improvise and adapt existing office equipment and supply items to their operations.

With the advent of such items as photocopying devices, microforms, and EDP equipment applications in library operations, and the recent significant increase in federal, state, and local funding support for library purposes, the market has become one of interest to many suppliers and public officials. The increasing number of all types of libraries, together with demands for greater production and efficiency in accomplishing increased workloads, has also had a stimulating effect upon the library equipment and furnishings market. It is now a growth market of some proportions. However, there is no immediate prospect that the manufacturers and suppliers will treat the library as a primary outlet until earnings increase and greater buying momentum develops. Also, library standards are noticeably lacking in most equipment areas -- a condition which can best be dealt with by the library profession through its organized societies and existing Library Technology Program (LTP).

VII LIBRARY USE BY BUSINESS AND INDUSTRY

A. General

Formalized service by public libraries to the business community is usually dated from the establishment of the Business Branch of the Newark Public Library in 1904. Use of public and private libraries by business and industry until World War II was largely from individuals who had normal access to these libraries and therefore used them for business literature as well as for recreational and educational reading. The recognition of business literature as an entity like history, languages, or art, and of the businessman user as a class, marked the first half of the century.

Then the expansion of industry and the well-recognized information explosion of the 1940's and 1950's intensified the need for library service, but completely changed the character of the service. The businessman who had stopped by the library to read his professional magazines now had his own or office subscriptions. Typically, he now had a library in his office area, and, with the move of industry to small towns and suburbs, stopping by the public library became impractical.

The accelerated technical development during World War II and the growth of basic research in the 1950's resulted in more technical and scientific literature of importance to business and industry, and in increased and immediate need for this literature.

The development of photocopiers and of the demand for their use were concurrent, and wherever libraries had equipment to make copies of publications, industrial users soon found they needed these retainable items. Where libraries did not supply copies as substitutes for loans, industry requested loan of materials to allow in-house copying. Warnings about copyright violation were generally disregarded.

Thus a new pattern of library use developed, characterized by urgency, by phone communication, by a marked increase in interlibrary transactions, by need for greater published resources, and by need for permanent copies. Each of these characteristics was certain to cause friction between libraries and demanding users. The desperate needs of business created a pressure which was exerted equally in every direction. This pressure was met with resistance from some outside libraries, with cooperative arrangements from some, and with temporary permissiveness which allowed exploitation of others. The nature of business and industrial demand now is fairly uniform; the response to the demand varies with the type of library and with its particular condition. (Table IV)

It is in the collections of older issues of periodicals that larger outside libraries give the greatest material service to industry, and where most of the problems are focused. Even a business organization with a fairly large library of its own cannot acquire and maintain all

Table IV

LIBRARY USE BY BUSINESS AND INDUSTRY

Library	Total Volumes	Science-Technology Volumes	Periodical Titles	Total Annual Interlibrary Service	Loans to Industry	Copies for Industry
Public						
N.Y.P.L.	7,590,041	450,000	4,200			300,000
Carnegie, Pittsburgh	1,900,014	460,000	4,000			100,000
Milwaukee	1,754,359	200,000	5,100			29,000
Academic						
Stanford	1,394,423	232,000	4,000	7,296	806	3,500
M.I.T.	959,212		4,127		6,000	12,000
Yale	4,831,738		3,807	6,914		
Special						
Linda Hall	320,000	320,000	10,300	50,000	35,000	
John Crerar	1,000,000	1,000,000		55,000	19,000	45,000
American Society for Metals	5,000	5,000	837	781	0	545
Engineering Societies	190,000	190,000	3,700	3,392	0	8,702

Note: Figures were gathered from various sources. Blanks indicate lack of information.

the periodicals it will need. In pursuing a subject, a manager or researcher is led from one reference to another, and he soon selects some he wants to see which his library does not have. Whether he calls an outside library himself or asks for the assistance of his company librarian who then calls outside, the following are typical difficulties raised by his needs:

1. His reference is incomplete or erroneous, requiring staff time to verify.

2. He is unable to travel to the library, again requiring more staff time than a user who locates his own material.

3. If the library does not lend journals, he urges that this rule be changed or broken.

4. He wants photocopies made for him to keep, even at some trouble and expense and with doubtful copyright status.

5 He cannot wait for mail service, and wants delivery or to send a messenger to pick up, violating the principle of individual charge-out responsibility, as well as the accepted interlibrary loan code.

6. If the outside library does not have the item either, he would like it to take responsibility for obtaining the item.

School libraries are generally exempt from this situation, because they do not have pertinent collections. Otherwise, very little distinction can be seen in the choice of type of library approached; geographic proximity is the most important factor, then the quality of service given. Public, academic, and government libraries, as well as other industrial libraries, all suffer the proportionately heavy burden of industry's demands, and they respond in the ways discussed below.

B. Public Libraries

As noted earlier, public libraries in large cities have taken cognizance of business and industrial use for a half century, usually by establishment of a special branch or at least a department. In working with businessmen, and more recently with company librarians, business branches have usually evolved rules at variance with those of their library systems. Often a business branch of a large city library allows loans or copies of materials with a more generous hand than the main library. Staff members of business branches typically devote more effort to a telephone reference question than other public librarians do. The tradition of service to the public without recompense is strong.

But willingness of individual staff members to extend service does not guarantee capacity to fill industrial needs. At present few public libraries, even business branches, make an effort to catalog or arrange materials in ways which are unorthodox to traditional library practices but which industrial libraries have developed for the convenience of business and technical users. Most librarians still have no way to locate items on loan which are desperately needed momentarily. And most have no provision for acquiring and arranging technical reports, publications which industry regards as essential.

To meet the frequent requests for periodical articles, the public library often allows the individual user to make his own photocopy on a coin machine, sometimes with a warning to use the copy only for personal research. With no feasible alternative, the user is thus encouraged to copy as much as he is willing to pay for, without regard for copyright status.

When requests for periodical articles come from industrial libraries rather than from individuals, the requesting library often invokes the principles of interlibrary loan as justification. Superficially the principles apply, but the situation is not one of cooperation of equals. The imbalance of collection size and the restrictions on reciprocal loan or visit make the provision of free service to industrial libraries unfair to the public library.

Further violation of the traditional rules for interlibrary service is common in the careless manner in which loan requests are transmitted from industry without verification in standard reference tools. Moreover, requests for current issues of periodicals and recent books, specifically forbidden by the ALA Interlibrary Loan Code, are commonplace from industry. Such practices may be justified in the light of present industrial library needs, but unquestionably, new arrangements could be made for compensation. Most large public libraries arrange to bill a flat fee for photocopy, but as a deterrent, not as a genuine recompense for service.

Large cities have historically been aware of the profit-making user. Now the growth of suburban industrial parks has spread the burden to nearby small town public libraries. Small public libraries in the Boston, New York, Detroit, and San Francisco areas are approached for service by light industry. The complex research and marketing interests of these companies and their small physical plants make strong development of their own libraries uneconomic, and they depend on outside libraries, starting with the local public library, to meet their needs. Such a local library must soon make decisions on the amounts and types of service to be given. Some of these libraries retreat completely, spending their available resource funds on publications other than scientific, technical, or industrial. Some welcome industrial use and protect themselves by formal arrangements with other local libraries of all types, or by restraining use by membership or fee requirements.

And, in an action reminiscent of the founding of the early business branches, one city system established a patent library as a branch, to meet the expressed need of industry in the area. (Appendix 3)

The paucity of data on use of public libraries by industry, particularly by individual businessmen, appears to stem from an attitude of librarians that to survey such users would constitute an invasion of privacy.

That a library can perform a considerable amount of service to business and yet almost ignore the implications is demonstrated by a recent survey of Metropolitan Maryland libraries. The libraries were said to be giving little support to occupational groups, but it was noted that no analysis had been made of the 14,500 phone calls of the 6-day survey period, calls which would have constituted the major contact with business.

C. Academic Libraries

If the use by industry of the public library can be noted as a burden, the attempts of industry to make use of large research libraries can be seen as an abuse. At least the public library is established to serve the public, whereas even state university libraries are set up to serve their own faculty and students, and unreimbursed service to outsiders inevitably detracts from their primary responsibility. Private colleges and universities even more clearly have no duty to provide for the needs of industry. However, the nature of the needs of industrial research closely matches the holdings of academic libraries, and, as noted earlier, industry cannot provide for all its own information needs.

Were academic libraries entirely closed to outsiders, the problem would be simpler. Establishment of self-protection measures is complicated by the services extended to alumni and families, by the fact that industrial leaders who are also academic trustees may exert influence to allow their companies special privileges, and by occasional efforts at good public relations.

One defensive measure adopted by a large university library in an industrial area is a ban on interlibrary loans within a 50-mile radius. Another library acted to discourage use by businessmen by training the library staff to recognize faculty and students and to challenge all others seen in the reading room.

Another factor of the academic-industrial relationship is the great disparity in reference assistance offered by staff in industrial and in academic libraries. Industrial librarians and their users try to extract the fast, extensive bibliographic and reference help from academic library staff which is usual in industry, and this help is not in the deliberate, let-the-student-do-his-own-and-learn tradition of educational libraries. Mutual dissatisfaction is the result.

The development of formal arrangements to serve industry but to protect academic libraries was accelerated by recent efforts of industry to attract both research work and workers by emphasizing the proximity and availability of university facilities. The Membership Plan for Industry of M.I.T.[1] and the Technical Information Service of Stanford[1] are examples of independent action to channel and control industrial use resulting from attracting industry to the campus. (See next chapter and Appendix 4)

An obvious possibility, very slow in developing, is cooperation between public and academic libraries in serving industry, a major obstacle being fair reimbursement. One example of such cooperation is the Associated Science Libraries of San Diego.

Another possibility, studied in New York State[3] and at Harvey Mudd College,[4] (see also next chapter) is the establishment of an independent library particularly to serve both education and industry. Such plans are held back by the high cost of establishing a library of sufficient size, by the apparent waste in duplicating holdings already in other libraries, and the necessity of cooperating with other libraries of diverse nature.

A further possibility is the establishment of an independent organization, supported by government, education, and industry, with an existing university library as the collection. Such an arrangement has been made by the Industrial Information Service based at Southern Methodist University.[5]

D. Special Libraries

The special library in industry, described in years past as a parasite, sometimes achieves a symbiotic life with fellow librarians. For proprietary and security reasons, most industrial libraries are not open to public use. Interlibrary loan between industrial libraries and other types has been one-way, ostensibly because industrial libraries had little of interest to exchange, and because the industrial library's users might be deprived of attention and of needed publications. These reasons are not convincing when industrial libraries serve each other,

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1. Nicholson, Natalie N. Service to Industry and Research Parks by College and University Libraries. Library Trends 14:262-272, January 1967.

2. Nelson Associates, Inc. Strengthening and Coordinating Reference and Research Library Resources in New York State. Albany, N.Y.: State Education Department, 1965.

3. Improving Reference and Research Library Resources in New York State. Albany, N.Y.: State Education Department, 1965.

4. A Joint College/Industry Library with Automata. Prepared for Harvey Mudd College, Science and Engineering, Claremont Colleges. Washington, D.C.: Council on Library Resources, 1964.

5. See next chapter and Appendix 5.

even those who are competitors. Some industrial libraries not only contribute to union lists of periodicals, but send out lists of their new acquisitions and otherwise encourage use by outside libraries, while similarly endowed neighbors refuse to allow interlibrary loan from their collections.

There are some nonindustrial special libraries in every area, and many of them are willing to lend to industry. On a paying basis, literature services are available from two large general science libraries, Linda Hall Library in Kansas City and John Crerar Library in Chicago, and from the Engineering Societies Library in New York. Libraries ready to serve on a paying basis in certain sciences are exemplified by the American Institute of Aeronautics and Astronautics Library and the Chemists' Club Library in New York. The particular advantages of these libraries are their extensive collections and copying services, and their appreciation of the value of speed in service.

There is continual dissatisfaction in big industrial libraries that some small libraries will abuse the privilege of emergency use and lean too heavily on them for assistance. Some of these small libraries are embryonic and they later contribute their full share; some do not. A fair means of compensation for all special library use is still to be found.

E. State Libraries

State libraries vary so widely in their organization, resources and services that generalizations are difficult. It can be noted that, in highly industrialized states like California and Connecticut, the state libraries have made friendly overtures to industry and are probably more willing to give service than industry is capable of using it. The California State Library invites inquiry from industry, yet in 1964 only 5 percent of its use was by industry.[6] Few state libraries have divided their collections along subject lines so that a business or science-technology branch exists to publicize holdings in these areas. Except for the recent establishment of collections in water resources and similar libraries supporting state agencies, the image of a state library in the business and industrial community is that of a collection of materials on political science and documents for the use of state officials.

In many states, the state library is organizationally under the state department of education and necessarily, or accidentally, tailors its external service to fit the school system. Little attention or support is provided for services other than educational.

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[6] Public Library Service Equal to the Challenge of California. Sacramento, Calif.: California State Library, 1965, p. 58.

The concept of the state library as a public resource, corresponding to the Library of Congress as a national public resource, is not yet widespread. But with the provisions of the State Technical Services Act, and the interlibrary cooperation encouraged by Title III of the Library Services and Construction Act (LSCA), state libraries are assuming a much more aggressive role in library development and in planning for the sharing of resources among all types of libraries. There is a great potential for service to industry from state libraries.

F. Federal Libraries and Information Services

Until the present, the three large government libraries (the Library of Congress, the National Library of Medicine, and the National Agricultural Library) as well as the NASA and AEC libraries, were available to general users only through their regular publications series. A striking feature of the several better known and most useful series has been the wide variation in content, treatment, and format each has exhibited, making retrospective search for subjects difficult. Subscribers do not put much confidence in the continuity of any but the services of NASA and AEC.

For two decades, efforts have been made to standardize some features of government information services, such as catalog card format, microform sizes, and comparable index terms. The problems of industrial libraries in buying equipment, and of manufacturers in designing equipment, have been complicated by lack of standardization.

Efforts at producing a government-wide thesaurus of scientific and technical index terms have, until the present time, gone off in directions which made the product unacceptable both to some agencies and to industrial libraries. At last a standard bibliographic form for report materials has been agreed upon by several, though not all agencies. Because this form is similar to the new Anglo-American standard for traditional library book materials, there is hope for consolidated bibliographies and indexes.

Government information services tend to swing from policies of centralization to decentralization and back again. At present, the scientific and technical sector is centralizing and planning on large data banks to serve distant users through advanced communication technology. Where decentralization exists, in NASA and ERIC centers, it is in the form of information centers with specific subject responsibilities rather than branch offices.

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VIII MEANS OF SUPPORT TO LIBRARIES FROM INDUSTRY

A. Background and Current Status

Industry support to libraries and library-like activities may be categorized into three principal types: (1) corporate and business taxes, (2) fees, and (3) gifts. A fourth type, bond issues, provides community support of library improvement through new or additional construction. Each type manifests itself in several forms, and the sources and levels of support will vary with the organizational placement and nature of the recipient library or institution.

A recent survey of financial support to public libraries[1] indicated they receive support primarily from city and county taxes. Of the 41 libraries surveyed, 7 received regular gifts from industry, 4 had income from endowment funds provided by industry, and 6 received special funds from industry for special projects.

Business and industry shows its high regard for the importance of education by contributing many millions of dollars to aid-to-education programs. Most commonly, however, the filtering process, which ensues within both the donor and the recipient institution's administrative budgeting and program planning, results in few, if any, of the contributed dollars being specifically identified for library support. Thus, the availability of library support money from most philanthropic and other sources is directly affected by the competing needs of other educational activities and programs. Libraries continue to face a selling job of considerable proportions within their own institutional environment as well as within the business and industrial community they serve.

B. Corporate and Business Taxes

This type of support to libraries includes municipal, county, state, and federal taxes. Traditionally, public and school libraries obtain 85 percent of their resources from local (municipal and county) property tax revenues.[2] The remaining portion of their operating funds is derived largely from state grants, gifts, and endowments.

During FY 1965, library activities represented 2.70 percent of the total operating expenditures of municipalities with populations ranging from 50,000 to 99,999, as contrasted to 1.74 percent for population

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1. Pfoutz, Daniel R. and Jackson B. Cohen. Service to Industry by Public Libraries. Library Trends 14:236-261, January 1966.

2. U.S. Office of Education. Statistics of Public Libraries: 1955-56. Washington: Government Printing Office, 1959.

centers of 1 million or more. During the same year, operating expenditures for all cities totaled over $12.5 billion, of which $267 million, or 2.25 percent, was allocated to library operations.[3]

State taxes, mainly property tax revenues, supplement public and school library budgets to some extent, but state-supported college and university libraries benefit more significantly from these revenues. The California State College System, for example, relies almost exclusively upon these sources for college library support, and almost all states provide additional funds for state and public libraries through grants.

The state appropriation in 1965-66 for the California State Library was $1,247,475. A 1965 Report to the California State Librarian[4] states that the "operating budget of the State Library should be close to $2 million at the present time (separate from federal-aid and state-aid monies) and should reach $3 million (separate from research and scholarship funds) in the next 5-6 years if this agency is fully to carry its proper role in the life of California. ... The one state with comparable population, New York, already appropriates over $10 million of state aid to local library systems annually ... and is actively considering a sizable additional investment in specialized and research library services."

Federal taxes collected from industry help contribute to the enormous amounts of federal aid funds made available for library purposes through recently enacted legislation. With the exception of special libraries, federal aid promises to be the major source of library resources for the foreseeable future. The extent and impact of federal support to libraries is the subject of Chapter IX of this report.

C. Fees

This type of support revenue includes nonresident fees charged by public libraries and some academic libraries, use fees for library and special information services, payments by industry to college and university-managed special libraries, and professional society membership fees entitling members to use society library services. The degree and relative amount of support derived from these sources for the library varies widely, depending upon the type of library and the nature of services provided to industry. The aggregate of such fees in a public library system represents only a small fraction of its operating budget, whereas many special library and library-like activities rely heavily upon such revenue for their existence.

Business and industry has been slow to recognize that good library service costs money and that taxes alone fall short of providing the types and quality of library services needed. Traditionally, librarians have been timid about charging fees. They have generally felt that charging fees may have adverse effects upon the library's public relations and interlibrary cooperation. However, industry is being asked more frequently now to contribute to the direct support of information services.

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[3] Bowker Annual 1967.

[4] Public Library Service Equal to the Challenge of California. Sacramento, California: California State Library, 1965.

There is increasing activity across the nation in the sponsorship and establishment by local industry of information centers, services, and groups whose operations are managed by a centrally located academic institution. In many recent cases, an important stimulus for information services to aid industry has been the availability of initial federal planning grants up to $25,000, and subsequent federal implementing grants with matching state funds under the State Technical Services Act (STSA) of 1965. Industry's interest and participation has also been heightened by the establishment and operation of the NASA Regional Dissemination Centers within colleges and universities to provide for the dissemination and utilization of NASA-generated technology. There are many examples of cooperative undertakings among academic libraries, with industry a willing supporter on a subscription or fee basis. Several of these are described below, and supporting data appears in the Appendixes.

1. Stanford University - Technical Information Service

Stanford University operates the prototype industrial participation plan known as the Technical Information Services (TIS). Established in 1958, it functions as a nonacademic department of the Stanford University Libraries. It was organized to provide local industrial, business, and research firms with as much library service as possible, short of hindering the university's teaching, study, and research aims. As a nonprofit organization, its service fees are calculated to cover only the costs of staff, offices, equipment, transportation, etc., plus a small percentage for the overall maintenance of the library collections. Used most heavily by neighboring Stanford Research Institute (SRI), TIS currently serves 137 member firms generally within a 50-mile radius as well as over 300 other firms across the country. During the last three years, participating members (other than SRI and the U.S. Geological Survey) have provided from 25 percent to 28 percent of total fee revenues. Subsidized by the university, the TIS does not receive any direct federal or state monies for its operations.[5]

2. Massachusetts Institute of Technology - Membership Plan for Industry

The second and similar academic plan for library use by industry was established at M.I.T. in 1960. An annual fee to join the Membership Plan for Industry (MPI) entitles the company to 10 individual library privilege cards for direct borrowing of 50 volumes on each card, unlimited interlibrary loans, and free copies of annual lists of journals and M.I.T. publications.

A cost analysis produced estimates of $5.00 for an interlibrary loan, $1.00 for a direct individual loan, and $2.00 for a reference question.

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[5] Stanford University TIS Annual Report 1965-66. See also Appendix 4.

Average cost for a photocopy was about $6.50. The analysis also showed that the $250 MPI membership fee frequently did not cover the cost of service to a given company. Forty-four companies accounted for two-thirds of the loans to industry, and 3 companies accounted for 50 percent of such loans.[6]

3. Southern Methodist University

Since late 1961, Southern Methodist University, through its Science Library, has attempted to meet the information needs of North Texas industry on a moderate scale. The library is supported almost entirely by the university budget. With the doubling of the number of companies being served during the last five years, it became necessary to establish a new service designed specifically for North Texas industry. The new program, designated Industrial Information Services (IIS), was launched in 1966 with the funding assistance of the Department of Commerce through STSA. The program ensures back-up resources and services to participating company libraries. Some 20 interested business and industrial leaders formed Science Information Institute, Inc. to provide initial financial support of the new program, with the expectation that it will be self-supporting within 5 years through company memberships and service fees. Each member firm is represented on an IIS Advisory Council which recommends policy, fees, new services, and general program activities. Half of the IIS TY 1968 operating budget of $114,000 is expected to come from industrial fees and memberships and the remaining half from state and federal funds. Services currently being furnished include loans, photocopying, bibliographic verification, search guidance, referrals, and literature searching and consulting.[7]

4. Library Group of Southwestern Connecticut

Cooperative library service at the local level, with industrial participation and support on a flat fee basis, is illustrated by the organization known as the Library Group of Southwestern Connecticut. With the Ferguson Library, the public library of Stamford, acting as the coordinating institution, 45 special and public libraries in the area joined forces to form the Library Group with a view toward sharing resources and services, avoiding costly duplication of materials, and providing the most efficient mechanisms to help meet the demands for improved library services to the business and industrial community. The Library Group charges an annual fee of $50 to its 24 corporate members, giving access to total holdings of over 2,500 periodicals, interlibrary loan service, photocopying, and sharing in the teletype network linking other Connecticut state, public, university, and special libraries. First established in 1963 with grants from several major companies, the Library Group has since expanded and has become affiliated with the Management Council of Southwestern Connecticut, a group of organizations representing the interests of business and industry. The $50 membership fee is used principally to underwrite the acquisition of library materials through its Group Resources Enrichment Funds; only $5 of each fee is used to defray the operating expenses of the Library Group.[8]

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[6] Nicholson, Natalie N. Service to Industry and Research Parks by College and University Libraries. Library Trends 14:262-272, January 1966.

[7] Correspondence with SMU/IIS. See Appendix for additional information.

5. Pacific Aerospace Library

The long-standing success of the Pacific Aerospace Library (PAL) as a self-supporting operation attests to industry's recognized need and willingness to support locally available libraries and library-like services. Sponsored since its inception in 1944 by the Institute of Aeronautical Sciences (now the American Institute of Aeronautics and Astronautics), PAL operated for over 15 years on yearly contributions from the several major airframe companies in the Los Angeles area. Fees based upon unit service charges replaced company contributions early in 1959. Currently, services are being extended on a subscription basis to some 45 to 50 Los Angeles firms, with the bulk of support coming from the four large airframe companies in the area. Additional income is derived through nonsubscribers who may purchase coupon books for payment of service and photocopying fees on a "per transaction" basis. Bibliographic searching services are offered on a fixed, hourly rate basis. The subscriptions and fees collected currently provide the sole source of PAL operating capital.

Three factors are operating to reduce the effectiveness of the PAL program: (1) the buildup of local company library holdings, both diverse and specialized, during recent years has led to less need for daily use of PAL; (2) insufficient publicity, especially among the smaller business and industrial firms in the area, has prevented a greater exploitation of PAL services; and (3) the tremendous increase in range of literature required, particularly periodical literature, has outstripped the ability of the library to increase its collection.

D. Gifts

The most common forms of gifts made to libraries are cash donations, endowments, library materials (collections), and restricted gifts for special projects or facilities. Obviously, because of tax exemptions, public, school, and academic libraries receive the vast majority of gifts from business and industry. The nation's wealth in public library resources exists today largely because of such outstanding philanthropists as Andrew Carnegie, J. P. Morgan, John Jacob Astor, Samuel J. Tilden, and Henry Ford. Foundations and trust funds perpetuate these philanthropies and provide a major source of support, directly and indirectly, to all public libraries.

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[8] Correspondence with Marie V. Hurley, Director of the Ferguson Library.

Business and industry during recent years have adopted higher education as their favorite philanthropic cause, according to one survey by the National Industrial Conference Board (NICB).[9] Nearly 42 percent of all company contributions reported in 1962 by the NICB went to education. In 1964, the most generous supporters were printing and publishing firms which contributed 0.91 percent of their net income before taxes. In dollar values, corporate financial contributions to colleges and universities have steadily climbed from a level of $43 million in 1950, to over $250 million in 1964, and they are still rising.[10] What proportion goes for library purposes can not be identified, but it seems safe to assume that libraries benefit to some extent from these gifts.

The Annual Report of the Librarian of Congress shows 1966 gift fund receipts of nearly $800,000, covering endowments and gifts for various special projects. The Detroit Public Library Technology and Science Room was furnished and equipped with substantial financial assistance from the Ford Motor Company. Also currently underway in Michigan is a $3.2 million project to expand and equip the Grand Rapids Public Library to make it one of the model libraries in the country. In this instance, the business, industrial, and other community contributions will total $850,000, which, coupled with a $1.6 million bond issue and a $750,000 federal grant, makes the achievement of the project goal possible.

The pattern of giving in these examples is similar to that in many projects across the country; that is, large business and industrial firms in the community, such as the Kindel Furniture interests in Grand Rapids, provide for the construction, furnishing, or equipping of a particular facility (in this case the Fine Arts and Music Room) in its entirety. The aggregate and resultant effect is that the library facilities and resources mirror the community as a whole, with appropriate emphasis upon the dominant industry in that community's economy.

Another notable example of industry cooperation in providing better library service is the endowment fund, approaching $400,000, for the Science-Technology Department of the Carnegie Library of Pittsburgh. Under leadership of the Pittsburgh Section of the American Chemical Society, industry has been most responsive in this undertaking.

The New York Public Library (N.Y.P.L.) reported total gift receipts of $836,600 and $825,800 for FY 1966 and FY 1967, respectively. It should be noted that the N.Y.P.L. Circulation Department is financed from public funds from the city with some state aid, while the Central Research Library derives its support primarily from private money. Of the FY 1967 total given above, $347,575 came from industry, $133,535 from foundations, and the remainder from individuals and various other sources.[11] The annual operating budget of N.Y.P.L. consists of approximately $12 million for the Circulation Department with its more than 80 branches, and approximately $7 million for its privately financed Central Research Library, making a grand total of $19 million.[12] The petroleum companies, the chemical companies, and law firms were the three most generous classes of donors in the 1966-67 fund drive. The largest share of gift revenue available to the Central Research Library has traditionally come from its return on investments of endowment funds. This amounted to over $3.5 million (over 60 percent of the total) during the last year.

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[9] Industry Aid to Education. New York: National Industrial Conference Board, 1965.

[10] Business Week, December 11, 1965, p. 84.

[11] New York Public Library. Eighteen Year Fund Raising Record -- Central Research Library, July 1967.

Not all gifts and other forms of support to libraries stem from industry's regard for the general welfare of the community. Probably the majority are derived through industry's recognition of its own need for special materials and facilities to enhance and further the business interests, to upgrade employee education and production, and to stimulate diversification and innovation leading to better management and greater profits.

In many cases, businesses, large and small, consider it essential to their growth to have top grade library service in the community, regardless of any altruistic considerations. Altogether too often, libraries fail to publicize their needs and to provide sound long-range planning for the achievement of their objectives. One survey of 60 science-technology departments of public libraries in 1964[13] revealed that 50 percent of the sample did not solicit support from industry. A more aggressive attitude toward obtaining the needed support from industry by librarians would seem to offer a promising yield in gifts.

E. Bond Issues

Public libraries, like many other civic and cultural projects, are often created, and occasionally renovated or remodeled, through new construction financed in part by bond issues. This type of library support is ordinarily conditional to or supplemented by federal or state aid and community contributions. The issue presented to the voters may also be primarily for a junior college or other educational institution which, by its nature, would include provisions for the attendant library facilities. Funds made available through this form of self-imposed taxation are used for the purchase of land and for the construction of facilities rather than for purchase of library materials or equipment. The submission and passage of bond issues requires considerable planning and administrative processing at various levels of government which often entails several years of effort before funds may become available. San Francisco Public

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[12] New York Public Library. Why the Public Library Needs Private Money.

[13] Pfoutz, Daniel R. and Jackson B. Cohen, op. cit.

Library officials have recently initiated plans for a bond issue to be submitted in 1969 which, among other things, will provide a better location and facilities for its proposed Business Branch serving the business and industrial complex of the city. Extensive public relations effort is essential to the success of the issue. It is neither an easy nor an inexpensive method of obtaining support for library activities, and it is more apt to be accomplished in response to strong public demand for improved library services to the community rather than at the option of the librarian.

A study prepared for the Joint Economic Committee of Congress by Nathan M. Cohen of the U.S. Office of Education noted that:

> Capital outlay for public libraries has increased in the 20 years from 1946 to 1965 from about $1.8 million to $103 million. To support this construction, local funding has jumped from $1.6 million to $70.9 million; ... 69 percent of all building money. Communities raised the money in 1965 by bond issues ($15.2 million of 21 percent) passed in local elections, with the rest coming from other local bonds and appropriations from tax sources; $1.7 million came from endowments and other private sources and $0.5 million from state funds.[14]

Despite the steady flow of federal funds for support of libraries, and predicted increases in certain areas, funds for the construction of libraries in the FY 1968 federal budget face some substantial reductions.[15] One analysis of the FY 1968 budget reports a $138 million decrease in funds which will be available for library construction and equipment programs, largely due to the impact of war spending.[16] Should this be the case during coming years, the burden of community funding through bond issues for support of library construction will become increasingly heavy.

F. Difficulties of Obtaining Business and Industry Support for Libraries

In contrast to the examples given earlier of industry support to libraries, there are also instances in which libraries or information centers have been unable to get support from industry. The following section provides some of these examples.

1. Industry Science Information Services (ISIS) -- Northern California

For over 15 years, the Defense Documentation Center (DDC) and its predecessor organizations, ASTIA and CADO, provided technical report services, both by mail from the headquarters operation and through personal contact in the field, with a network of strategically located field offices. Each field office was equipped with the complete classified and unclassified collection (in microform during recent years) and maintained the capability for on-site screening, selecting, viewing, and reproducting desired portions of any document in the inventory by visiting researchers. No fees were charged for these and other DDC services because of the likelihood that such costs borne by government contractors would be charged back to the government together with overhead. DDC announced in September 1966 that, with the exception of its Los Angeles Field Service, the field offices would be closed, and better service would be given from the headquarters in Washington. This event stirred the defense industry in Northern California to an exploration of other means of retaining such a local resource and service, on the basis that contract performance would be adversely affected by the absence of field office capabilities. An ad hoc committee on reconstituting the service was formed, and plans were made for further discussions with representatives of the Department of Defense, the State of California, and interested managers from industry and educational institutions in the area. Agreement was reached in November 1966 with the DOD representative that, while the DDC office would be closed as scheduled, its resources and equipment would be retained intact for 120 days, pending final decision by DOD on a proposed method of restoring the service under nonfederal management and funding.

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[14] Library buildings study gives new statistics. Library Journal 92:2694-6, August 1967.

[15] Budget for 1968 proposes changes. Library Journal 92:721-2, February 15, 1967.

[16] 1968 OE budget tops 67's by a hair: most library-related programs remain firm. Library Journal 92:1275, March 15, 1967.

The proposed plan submitted to DOD early in December 1966 embodied the following principal features:

- The International Science Foundation, a nonprofit California corporation, was selected to administer the operation of the project under a dollar-a-year contract with DOD.
- The new entity would be known as Industry Science Information Services (ISIS).
- The services to be provided to industry, at the outset at least, would be nearly identical in nature and scope to those previously available from the deactivated DDC San Francisco Field Service, Sunnyvale, California.
- The flow of report literature, with the exception of highly controlled documents, would continue as before.
- Funding would initially be from the private sector through company contributions, replaced or augmented after the first 6 months of operations by California state aid utilizing State Technical Services Act appropriations. Ultimately, a service fee schedule would provide revenue to make the project self-sustaining.

During the ensuing months, fund raising efforts yielded promises for only $15,000 of the $100,000 estimated to be necessary for 1967 operations. Financial commitments hinged upon federal acceptance of the proposal and assurances from the state that the continuity of funding in FY 1968 would be a practical possibility. Early in 1967, it became apparent that significant difficulties would arise in the ISIS operation if any of its holdings contributed by DOD were in any way controlled or classified. Confronted with this fact, coupled with the uncertainties of adequate funding and availability of suitable quarters, the ad hoc committee was forced to the conclusion that its objectives could not be achieved. Consequently, in April 1967, at a meeting with a DOD representative, it was mutually agreed that the ISIS project would have to be abandoned.

2. Document-Handling and Reference Center -- Southern California

The temporary continuance of the DDC Southern California office beyond the closing date of all other such facilities was allowed in order to permit testing of a plan basically like that described above. In March 1966, a proposal for a Document-Handling and Reference Center at the Pacific Aerospace Library (PAL) in Los Angeles was submitted by the American Institute of Aeronautics and Astronautics (AIAA) for joint consideration by NASA and DOD. The proposed center would incorporate the DDC collections with those of PAL and provide reference and report services on a fee basis, much the same as PAL had been doing for years. With both offices (PAL and DDC) fully operational, less financial difficulty would be encountered at the outset; that is, the "pump-priming" dollars to reactivate an operation would not loom as an immediate crisis as in the case of ISIS. Yet, the problem of how to handle and control the limited and classified DOD report literature, how to assure funding continuity, and other economic factors became matters of serious concern to the decision-makers in government. Further problems were posed by the impending establishment in Los Angeles of the NASA-sponsored Western Research Application Center (WESRAC), newest of the NASA Regional Dissemination Centers (see appendix); WESRAC's existence could limit the need for the proposed Document-Handling and Reference Center.

There are no readily available documented results of the evaluation or testing of the AIAA/PAL proposal. If, however, the proposal was predicated on the availability of the resources of the DDC Los Angeles Field Service, it may have suffered a mortal wound by the final closing of that DDC facility on 28 July 1967. It now appears that the Document-Handling and Reference Center will not obtain the necessary support to get started. PAL is, of course, still operational as reported earlier.

3. Harvey Mudd College

Another example of efforts to plan a science library, this one utilizing automation techniques, is the investigation conducted under sponsorship of the Council on Library Resources (CLR) regarding the Harvey Mudd College, Claremont, California.[17] The study made in 1964, was aimed toward determining the need for and feasibility of a cooperative regional library facility which could give rapid service to Harvey Mudd and other colleges in the Claremont complex as well as to the surrounding federal and industrial community at a reasonable subscription cost. The college was to provide the facilities, and the industrial users were to share the major operating costs by a subscription fee. The study envisioned this as a pilot project which might serve as a model for the establishment of similar regional facilities elsewhere. As in other instances cited, the success of the regional library rests on the availability of initial funding as well as on continuing support through local subscription fees. A CLR news release reported: "There is an industrial need for a fast, effective service which can be offered, providing start-up support is obtained and enough subscribers are enlisted to cover annual costs."[18] The project has not been initiated yet because of the inability to obtain the necessary funding.

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[17] A Joint College/Industry Library with Automata. Prepared for Harvey Mudd College, Science and Engineering, Claremont Colleges, by T. Mayeda and others under Council on Library Resources, Inc. Washington, D.C.: The Council, 1964.

4. Sunnyvale Patent Library

The Sunnyvale Patent Library is an example of an undertaking to obtain support from business and industry for a more specialized collection. Conceived in the early 1960's by a patent attorney employed with one of Sunnyvale, California's larger aerospace firms, the proposed patent library became an issue of considerable interest to the International Science Foundation representing many San Francisco Bay Area firms. Negotiations with the U.S. Patent Office, aided by local industrialists and members of Congress, led to arrangements for a city subscription to all patents for a modest fee, beginning in 1962. Through a brief but intensive fund drive, a few hundred dollars were raised to provide for the cost of the initial subscription, construction of shelving to house the collection, token payments to volunteers to sort and file the patents, and a small storage room in a Sunnyvale office building. The early operation was on a do-it-yourself basis with little publicity or industrial knowledge of its existence and location, and no provision for the salary of an attendant. A year later, lack of continuing financial support from industry forced the placement of the collection into temporary storage at the nearby DDC Field Service building. Persistent efforts to find a more suitable home and to encourage more widespread use of the patents finally bore fruit when the City of Sunnyvale accepted the responsibility for maintenance and servicing of this collection as a Branch of the Sunnyvale Public Library. Here again, both the initial and continuous funding of the project presented the greatest obstacle to be overcome, despite the general interest and moral support accorded the idea at the outset.

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[18] CLR Recent Developments, no. 134, July 14, 1964.

G. Summary and Recommendations

Obviously, without some form of subsidy or support as generally described in this chapter, libraries could not exist. Born through philanthropy, nurtured through further philanthropy and public aid, the nation's aggregate library resources rank high among the national assets. With minor exceptions, libraries have virtually no earning power. Public library fines and fees are an insignificant element of income.

Steadily rising taxes have had some leveling effect upon business and industry gifts to libraries and education; these gifts have shown little change in recent years. Also, the influx of federal funds may have led businessmen to feel that library support from them may no longer be so urgently needed. It is apparent that any appreciable increase in the level of support from business and industry will depend largely upon aggressive efforts by administrators of libraries and educational institutions. The complacent attitude of many librarians toward industrial giving must be replaced by a greater awareness of the importance of placing the library's needs before every potential source of support and by devising better ways of raising funds. Coupled with such "sales" effort is the need for some effective means of controlling or minimizing the cost of library service. Coordination and cooperation between library systems appear desirable economic measures.

Business and industrial donors may consider their support to libraries chiefly as an investment, a philanthropy, or a tax, but in the final analysis the cost to industry of such support can be regarded as a cost of doing business and, as such, will be commonly passed on to the consumer. The average business executive must be convinced that such costs are necessary and reasonable, and that there is some identifiable form of payoff that can be properly assessed in relation to his total cost picture. This suggests that librarians and their institutional managers seeking outside support should do so in a more businesslike manner and, at the same time, should show the relationship between the library's need and the business objectives of the prospective donor firm.

Bond issues will continue to be an important source of fund support for public libraries. Yet, the costs of local government have been steadily rising and competition among the various local government services for their share of this financing is high. Also, due to the usually lengthy lead time associated with bond issues, they should not be regarded as a readily available source of income. However, librarians and public officials at local levels would be well advised to examine more closely the potential of this means of support, and in doing so, to consider the possible advantages of utilizing professional fund raising counsel during the planning stage if this capability does not exist internally.

While immediate prospects for continuing strong federal support to libraries are indeed favorable, there should be no lessening of effort to fully exploit all other possible sources. On the contrary, higher levels of effort and greater coordination with business and industry to obtain the needed support should be encouraged.

IX FEDERAL SUPPORT TO LIBRARIES

A. General

A summary of current federal legislation which directly and indirectly affects library activities is contained in Appendix 8. This section deals mainly with that legislation having greatest financial impact on libraries. During recent years, Congress has provided the mechanisms for a massive dollar transfusion to help cure the known or suspected ills of education and libraries across the nation. Ranging from a mere trickle prior to 1957 to a steady flow in 1967, federal funds now available for library purposes exceed those of any prior year. Additional funds authorized by Congress, but not yet appropriated or allocated, offer bright financial prospects for educators and librarians as well as the manufacturers and suppliers of library materials, services, and equipment. However, any predictions regarding the future of federal funding must obviously take into consideration the budgetary demands of the Vietnam conflict as well as other demands arising from domestic and foreign commitments. Yet, due to widespread recognition at all levels of government of the public need for improved library resources, it seems unlikely that there would be serious curtailment of federal support to libraries in the forseeable future. Each of the major federal acts that provide support to libraries are described below. These acts are discussed in some detail because of the potential for providing information services to business, as well as providing an increasing market for the suppliers of library materials and services.

B. Elementary and Secondary Education Act of 1965 (ESEA)

Referring to the Elementary and Secondary Education Act of 1965 as "the big bonanza," Frank Schick, formerly of the U.S. Office of Education, observed that FY 1966 expenditures for textbooks and library materials might range from $200 million to $300 million, and, with normal growth conditions and trends, library budgets might total over a half a billion dollars per year by FY 1975.[1] In addition, Schick noted the current impossibility of determining the exact total of federal funds available for the purchase of library materials. His projections are based largely upon past and expected public school and academic enrollments and anticipated population expansion, and do not fully consider other demands upon the federal budget.

Title I of ESEA has $1,059 million for 1967. Not all of this money, of course, is to be spent directly by school libraries. A sampling of projects approved by the Office of Education on ESEA ". . . indicates that about nine percent of Title I money goes into library services of one kind or another..."[2] This money must be spent to benefit children of low-income families, and it includes support for staff and facilities as well as books.

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[1] *Publishers' Weekly* 189:31, September 23. 1966.

Title II of ESEA has a far higher proportion going to school libraries. Frank Stevens, ESEA Title II Coordinator, New York State Education Department, states that, "Unofficial reports from the U.S. Office of Education indicate that, of the $100 million allocated for ESEA Title II during fiscal year 1966, approximately $75-85 million was allocated by the states for school library resources with the two remaining categories--textbooks and other instructional materials--accounting for the balance."[3] The act states that Title II money can be spent only on books and audio-visual materials, not on staff or facilities. The appropriation for FY 1967 was raised only to $105 million, and presumably the money will be spent in roughly the same proportions as in FY 1966.

Title III of ESEA has been funded for $145 million in FY 1967, while in 1966 the appropriation was for only $75 million. This title is more for special projects than for supplementary support of a regular acquisitions program. It supports demonstration libraries, materials centers to meet special student needs, and regional library facilities. There is a strong preference for cooperative projects with several public agencies, rather than one, and the guidelines also suggest that innovative projects will receive preference. Since the budget of the Title III has been increased so markedly, it is impossible now to predict just how much of it will be spent for library materials.

There are some specific problems for librarians in their use of the different ESEA titles. Title I is supposed to be poverty-oriented. For districts to qualify for this aid, a certain proportion of students must come from low-income families. Individual projects are supposed to meet the special needs of these students, and only careful planning can assure a unified approach to solving their problems. Time for such careful planning was noticeably lacking in the first year of Title I, so that funds were used either to extend already existing services, or to purchase expensive equipment which was not of much use. The projects may have been hampered also by a general distrust and dislike by the most disadvantaged of local governments--including school systems. Whatever the causes, the effect was that in the first year of Title I, according to the National Advisory Council on the Education of Disadvantaged

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2. Library Journal 92:721, February 15, 1967

3. Stevens, Frank. ESEA Title II, the first year in review. Library Journal 92:311, January 15, 1967

Children," most schools failed to identify and attract the most seriously disadvantaged."[4]

There is also a real problem of providing aid to segregated schools. This is because those schools enrolling mostly Negroes are likely to qualify for Title I grants; however, the Civil Rights Act requires the abolition, not the strengthening, of segregated schools. The existence of white-only public libraries in the deep South makes the job of the school libraries in predominantly Negro schools even more crucial in the educational process, since all reading and audio-visual material for these students must be supplied through the schools, without any back-up from the public libraries of the area. The Commissioner of the Office of Education has already had problems with Congress on this issue of segregation, and future appropriations could be affected by it.[5]

Title II of ESEA also has a problem of interpretation of "relative need" within many states. However, this is not as restrictive as Title I, and numerous libraries which serve relatively affluent populations have been able to obtain funds. The biggest problem, however, is that Title II pays for only the books and other materials, and has no provision for extra staff or equipment to handle them. In effect, this means that a district receiving Title II funds must match those funds in order to get the books out of the shipping cases and onto the shelves. Other problems that have arisen from Title II include those of separation of church and state, of public aid to private schools, and of relationships with public libraries receiving LSCA funds. Most of the problems inherent in Title II, however, seem minor compared to those of the other titles.

One major problem caused by Title II attests to the real impact of this title on school library acquisitions. So many extra book orders have gone to jobbers and publishers that the average delay in receiving a book in any school library, not just those using ESEA money, has more than doubled. In a personal communication, Richard L. Darling, head of the library processing center for Montgomery County Public Schools and president of the American Association of School Librarians, states that the average time from ordering until a book reaches the shelf has gone from four weeks before Title II to eight to twelve weeks. Confusion caused by this increase in book funds in a short time has been felt in numerous ways. Mr. Darling writes: ". . . with ESEA Title II we have had to process and catalog 271,000 volumes this year (1966-1967), compared to 124,000 last year (1965-1966). Despite the fact that we must obviously make use of machine-readable records to speed our work, we haven't had time for sensible planning."

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[4] A view from the hill. Library Journal 92:315, January 15, 1967.

[5] Ibid. p. 317.

Title III of ESEA, for supplementary educational centers and services, emphasizes sensible planning as a major part of innovative projects which are planned to serve as demonstrations for all U.S. educators. Cooperation with other public agencies is encouraged in both planning and carrying out the projects. The projects are approved separately by state departments and then by the Office of Education. The problems are thus inherent in the Title: red tape in approvals, difficulties in planning and administering projects affecting separate public agencies, and, above all, difficulties in deciding what is truly an innovation.

C. Library Services Act of 1956 (LSA/LSCA)

The Library Services Act (LSA) of 1956, variously amended and subsequently named the Library Services and Construction Act (LSCA) of 1966, fostered to a large extent the development and improvement of public libraries during the period FY 1957-1966. "A total of $159 million in federal funds has been expended for both library services and construction during the ten-year program. About $600 million are currently being expended for public library services and construction from federal, state, and local sources. Almost $2 billion more are needed to bring public libraries up to a minimal level of adequacy so that they may fulfill their vital role as 'the university of the people' for all Americans." [6] The original legislation was directed toward expansion and improvement of public library service in the most underdeveloped of this nation's population segments, particularly in the rural areas. In amending the act in 1964, Congress broadened the program to include authorization for similar development in urban areas and provided considerable funds for library construction, with the provision that the state and local funding would be continued at a minimum level equal to the 1963 "floor" year. FY 1967 appropriations include only planning money for interlibrary cooperation, state institutional library services, and library services to the physically handicapped. Authorizations for FY 1968 through FY 1971 represent steadily increasing amounts each year, clearly demonstrating the present willingness of the federal government to meet its share of the responsibility for providing better public library resources in cooperation with state and local governments. A

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6. Frantz, John C. and Nathan M. Cohen. The Federal Government and Public Libraries: A Ten Year Partnership, Fiscal Years 1957-1966. Washington, D.C.: U.S. Office of Education, 1966.

summary of the amount of funds appropriated for this act is given below:

Fiscal Year	Appropriations (millions)	
1957	$ 2.1	
1958	5.0	
1959	6.0	
1960	7.5	
1961	7.5	
1962	7.5	
1963	7.5	
1964	7.5	
1965	55.0	
1966	55.0	
1967	76.0	
1968	114.0	(authorized but not appropriated)
1969	140.0	" " " "
1970	166.0	" " " "
1971	192.0	" " " "

Source: Bowker Annual 1967

D. State Technical Services Act of 1965 (STSA)

Over $4 billion was expended by government and industry for research and development during World War II, resulting in a host of technological innovations which brought about many new industrial and consumer products that have had a profound effect upon the industrial economy. With a growing awareness of the importance of technological change to industrial development, industry's expenditures for R&D have increased from $1.2 billion in 1950 to over $5 billion in 1965. Similarly, the development of atomic energy and space programs, along with national defense requirements, have caused federally supported research to climb from $1.6 billion in 1950 to an estimated $15 billion in 1965. National concern for the rapid diffusion and exploitation of the vast store of scientific and technical knowledge thus generated brought about passage of the State Technical Services Act of 1965. The scope statement contained in the enabling legislation sets forth the purpose of the act: "to provide a national program of incentives and support for the several states individually and in cooperation with each other in their establishing and maintaining state and interstate technical service programs in order that the benefits of federally financed research as well as other research may be placed more effectively in the hands of American business, commerce and industrial establishments throughout the country."[7]

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[7] U.S. Department of Commerce. Office of State Technical Services, First Annual Report, FY 1966. Washington,D.C.: Department of Commerce, January 17, 1967.

The Office of State Technical Services (OSTS) was established within the U.S. Department of Commerce in November 1965, following the appropriation of $3.5 million by Congress. By the close of FY 1966, all 50 states, together with the District of Columbia, Puerto Rico, and the Virgin Islands, had requested and qualified for initial planning grants. A total of 24 states obtained federal approval of their five-year plans and programs, containing 582 projects for implementation during the year. Total FY 1966 federal matching fund grants, distributed among the 102 participating institutions (e.g., libraries, colleges, universities, foundations), amounted to over $1.6 million, with an additional $1.3 million for the 53 planning grants, making a grand total of approximately $2.9 million, or 83 percent of the first appropriation available to the states. Special merit program grants, reference services, and administrative costs accounted for $0.5 million more, leaving all but $51,000 obligated in FY 1966 in support of the program. Approximately 75 percent of the federal matching funds released were applied by the states to conference and workshop projects, while slightly less than 20 percent supported information dissemination and referral service activities. In practice, the use of approved project funds has been limited to support of other than conventional library services.

Other federal departments and agencies (e.g., NASA, DOD, and AEC) have both primary and secondary missions and functions, with underlying objectives paralleling those of the STSA and offering significant opportunities for cooperative ventures. The financial support by the NASA Office of Technology Utilization to its Regional Dissemination Center network is a leading example of this. As the OSTS program evolves, the possibilities of cooperative programs and closer operating relationships among the various networks will become more evident and useful in the promotion of economic growth through effective utilization of technology across the nation.

E. Higher Education Act of 1965

The Higher Education Act of 1965 (PL 89-329), particularly with respect to Title II as amended in 1966, had its greatest impact upon college and university library resources. Subdivided into three parts, Title II authorizes funds for the purchase of library materials of all types for college and university libraries, authorizes grants for training in librarianship as well as grants for research and demonstration projects, and furnishes authority for the transfer of funds by the U.S. Commissioner of Education to the Librarian of Congress for the acquisition and cataloging of library materials and distribution of bibliographic information by various means. Authorization totaled $60 million for FY 1967 and double that amount annually for FY 1968 and 1969, with appropriation made for $60 million for FY 1967. [8]

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[8] Bowker Annual 1967, p. 154.

F. National Defense Education Act (NDEA)

Title III of NDEA has an appropriation of $79.2 million for FY 1967. Unlike ESEA, NDEA requires matching funds from the states or local governments, thus effectively doubling that money. According to the Office of Education, "Title III now provides financial assistance to public elementary and secondary schools for strengthening instruction in science, mathematics, modern foreign languages, and other critical subjects--history, civics, geography, English, and reading." [9] Although the program is not aimed directly at libraries, both books and equipment to support improved curricula in these subjects may be purchased and kept in the library. Since such purchases are often not itemized in the initial applications for NDEA funds, it is not possible to tell how much of the $79.2 million actually has gone toward library services.

Title III of NDEA and Titles I, II, and III of ESEA have all caused problems for librarians in practice. The two worst problems for NDEA Title III are the matching funds provision and the restrictions in subject. Poorer states and school districts have not been able to increase their support of education to match NDEA funds, and thus the districts which most need improvement are likely to be affected least by NDEA. (i.e., "the rich states get richer.") Many instances are reported in which, in violation of the act, local matching funds are promised but not delivered for local use, or are instead delivered to a general fund. [10] The subject field restrictions, even with the aid of published guidelines prepared by the Office of Education, are difficult to interpret. Since each state board of education interprets these guidelines individually in approving projects, librarians cannot be sure before planning purchases that expenditures will be approved and the bills will be paid.

Red tape, of course, is a common problem with securing money under any government program. The problems are magnified when, as in both NDEA and in Titles II and III of ESEA, approvals must come from both state and federal offices. Another continuing problem is that of timing: the federal fiscal year does not match the school year. Although efforts have been made to ease this situation by allowing expenditures of funds committed in one year during the following year, timing requirements still seem to be a problem for school librarians in planning their acquisition programs.

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9. U.S. Office of Education. School Library Services in the NDEA Title III Program. OE-15054, Bulletin No. 25, 1965. p. 3.

10. Lewis, Thomas P. Tied with a red tape ribbon: knots in the NDEA program. Library Journal 91:2157-2161, April 15, 1966.

G. Other Federal Support Programs

There are several hundred library and library-like activities operated or funded directly by the federal establishment. Some of these function with decentralized networks or satellite branches, some are national repositories, and some are combinations or coalitions of government, education, and industry. This section is concerned primarily with those major federally sponsored or operated systems, data banks, libraries, and information centers which provide assistance to industry and business either directly or through interlibrary cooperation. Generally, they are regarded as special libraries. The bulk of their holdings and services lie in the category of "unpublished" government sponsored documentation and report literature relating to all aspects of science and technology. With the exception of a few facilities such as the Library of Congress, they are under control of the executive branch of the government. Many of these facilities were established initially to serve the specific needs of their parent organization and now make some of their services available to the general public on a lower priority basis after they serve their primary customers. For these facilities, budget cuts result in curtailed services for the industrial and nonfederal users.

During the last decade, a number of federally supported facilities have also been established for the explicit purpose of providing information services to industry and other interested users. This represents a direct form of support for library services to industry.

Coordination among the principal executive agents, departments, and offices concerning the federal policy and program guidance affecting the establishment and direction of the federal information network is accomplished through the Committee on Scientific and Technical Information (COSATI), an advisory group which functions in support of the President's Federal Council on Science and Technology.

Among the most significant programs aimed toward discharging the government's responsibility for bringing about secondary applications of technology generated via public funds is the NASA Technology Utilization Program. Through its network of Regional Dissemination Centers situated in universities and research institutions across the nation, there is established a government-university-industry partnership aiding technology transfer at the local level. NASA provides initial funding support, together with scientific and technical materials, to the participating institution. The participating organization enrolls a number of fee-paying private firms, both large and small, who wish to receive selected categories of information in subject fields matching the company's interest profile. In addition, the centers are equipped to conduct retrospective searches using NASA tapes, and provide copies of reports on a timely basis.

Fees paid by member firms vary with company size, volume and type of services needed, and the nature of the center. The fees for individual companies range from less than $500 to over $15,000 per year. An estimated 5,000 companies are receiving some type of service from these centers each year at an annual cost to NASA of approximately $4 million. The centers are expected to become self-sustaining financially within five years of their establishment.

Another very significant federally operated information dissemination service is the Clearinghouse for Federal Scientific and Technical Information (CFSTI), replacing the former Office of Technical Services of the Department of Commerce. CFSTI, with an annual budget of approximately $4 million, functions within the Department of Commerce to make available to industry, at a nominal cost, some 50,000 copies of government sponsored Research, Development, Test, and Evaluation reports per year representing that technology which has resulted from billions of dollars worth of research and development by many government agencies. CFSTI's annual report sales volume of over $1 million comes from the entire spectrum of the business, industrial, and academic community. The Department of Commerce field office network and Small Business Administration representatives play an important role in assisting business and industry in the maximum use of the available technology. With the State Technical Services Program discussed earlier in this report, the Commerce Department has almost unlimited opportunities to advance the nation's industrial and economic growth.

The Department of Defense is currently spending between $10 and $12 million annually in support of its network of 21 Information Analysis Centers, and a like amount for the operation of the Defense Documentation Center (DDC) at Alexandria, Virginia. The former provides an array of subject-oriented centers whose primary function is to keep fully informed of developments in their respective fields of science and technology and to be responsive to the needs of defense-related business and industry. This is done by providing state-of-the-art summaries and suggested solutions to specific research problems confronted within the range of their disciplines.

Comparatively little information regarding general usage of these centers is available--pointing up the need for closer examination of their overall effectiveness in accomplishing the desired technology transfer--but it is apparent that knowledge of their existence, utility, and location is generally lacking throughout the industrial community. DDC offers a free service to the defense-oriented business, particularly for the classified and controlled government sponsored report literature on a "need-to-know" basis.

DDC's collections, including those of the former CADO and ASTIA (Central Air Documents Office and Armed Services Technical Information Agency) holdings, now exceed 800,000 titles, over one-third of which carry some special access restrictions. Until recently, DDC extended the full range of its services without fee to its users through a national network of regional offices in this country, featuring the instant availability of reports, bibliographies, and personalized communications with the formal central system. Under the pressures of cost reduction programs and with the evolutionary changes in systems applications, DDC now operates a centralized, computer-based secondary dissemination program with emerging emphasis upon meeting the internal needs of DOD management for its technical information program. DDC still remains the best available mechanism for industry to monitor the interchange of classified and controlled technical information between industry and government.

The Atomic Energy Commission, with its Technical Information Extension Division at Oak Ridge, Tennessee, holds a unique position with respect to the flow of nuclear technology to industry. Under its legislative authority, the AEC has the responsibility for controlling the interchange of nuclear science information between governments, and between industry and government. During the past 10-12 years, the AEC, through its access permit program, has made effective use of this authority and stimulated extensive application of its technology for innovative purposes. The AEC regional depositories provide ready access to nuclear science information, and the publication of Nuclear Science Abstracts has encouraged maximum use of the available literature on nuclear technology by industry.

The National Agricultural Library is responsible for the coordination and issuance of policies concerning the scientific and technical information activities of the Department of Agriculture. It also operates a Pesticides Information Center to provide support to the Department's research program on pests and pest control. The Library has worked closely with land-grant colleges and universities and agricultural experiment stations through out the country to develop improved services and support programs wherever possible.

The National Library of Medicine (NLM) of the U.S. Public Health Service, the largest biomedical library in the country, acquires and circulates information covering all aspects of the field of medicine and public health. Through its Medical Literature Analysis and Retrieval System (MEDLARS), the NLM provides a continuing flow of bibliographies for the use of medical research groups. The NLM has the responsibility for cataloging and indexing the world's literature in medicine and health-related fields and preparing the monthly Index Medicus, the most comprehensive and authoritative work of its kind in existence.

The Library of Congress operates a "switching center," known as the National Referral Center for Science and Technology, with funds made available by the National Science Foundation. The center does not offer report or bibliographic services but, instead, provides a means of referring researchers to the appropriate source of information in the nation most likely to have the type of information desired. Its register of information sources covers all areas of science and technology. Also supported by the National Science Foundation but administered by the

Smithsonian Institution, the Science Information Exchange (SIE) acquires, organizes, and disseminates information on current research activities, principally in the natural and physical sciences. Like the Referral Center, SIE does not provide copies of published reports or abstracts; instead, it furnishes information to requestors on who is doing what in current research with a view toward avoiding unwarranted duplication of research effort.

The U.S. Office of Education, in cooperation with over a dozen universities, funds the operation of Educational Research Information Centers (ERIC) which collect, index, and abstract significant works in all fields of education research. ERIC Central in Washington maintains a collection of the most significant papers processed by the specialist centers and announces their existence in a publication titled Research in Education which is available through the Government Printing Office. Additional ERIC centers will be added to the existing network as more funds become available.

The foregoing represents only a brief summary of the major federal information centers and library activities in being. It is a complex and many-faceted structure, adequate in some areas and inadequate in others. No attempt is made here to estimate the total annual federal expenditures in support of these major systems, but it can safely be assumed that it runs into hundreds of millions of dollars.

H. Summary and Recommendations

The overall impact of federal funds on school libraries over the next few years is hard to predict. There are some operational problems caused by inadequate staffing, both in the state departments of education and in the U.S. Office of Education. The decentralization of the Office of Education may allow some improvement, but it seems more likely that the already scarce and overworked administrators will be spread out further in less effective units. This would mean that, even with increased appropriations from Congress, projects would take longer to process and less money might actually be spent. It is probable that, to mitigate this problem, more large grants would be made and fewer small ones, since this would require less total administrative effort. Unfortunately, the smaller libraries may need their small grants far more than the large libraries may need their large grants.

Although many legislators agree that education needs more federal aid, and that funds are especially needed for those titles directed at students from low-income groups, a significant increase in appropriations seems unlikely during the next year or so, due to the strong pressures for budget-cutting exerted by the war in Vietnam. With any negotiations of peace, however, there might be a rapid increase in these appropriations. This would put a considerable strain on the Office of Education, on the state boards, and on the libraries themselves. As indicated before, it would also put a welcome strain on many different types of library suppliers.

School libraries need books, but they need equipment, processing services, and other things in addition to books. With increased federal aid, some of these needs could be met.

The stipulation in most federal fund legislation that money not be used for staff or facilities is a handicap to needy libraries. Some provision should be made for a proportional amount of funding to cover the costs of acquisition and technical processing.

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X APPENDIXES

Appendix 1

THE MANUFACTURER SURVEY

The survey of equipment manufacturers was conducted by product literature review, and 10 interviews with manufacturers or their representatives. The interview format was not fixed.

The survey focussed on new library products, particularly those related to the information sciences, communications, and computer technology. The survey was exposed to, but did not focus on, mechanical handling equipment, bindery equipment, and generally stable library products. The study excluded shelving units, office equipment, and the like.

The range of new products included:

1. Punched card equipment
2. Computers
3. Remote input/output devices for computers
4. Facsimile devices
5. Communications techniques
6. Microforms
7. Reproduction and copying equipment
8. Audio-visual equipment
9. Other equipment and systems such as CCTV, videotape, microwave systems.

The interviews started with a request for a marketing plan for that particular product or library products. Three companies claimed to have marketing plans, none of which were released.

The interviews, which generally lasted for two to three hours, covered the entire range of the manufacturers'or representatives'opinion of the library market. Subjects covered included: value of their product, competitors, opinions on competitors, total sales, unit cost, investment history, sales predictions, unit profit, representatives' fees, promotional costs, exhibits and demonstrations, required visits per sale, new R&D developments, library buying trends, opinions on librarians, market stability, library buying procedures, federal vs. municipal libraries, and their overall opinion of the library as a market.

Appendix 2

THE LIBRARY SURVEY

The library survey started with published literature on library statistics. A spot check of three libraries showed that published statistics were misleading. They were too gross; no data on specific capital equipment expenditures was available.

A series of 20 questions, all having to do with budgets, buying authority, consumer interest in new products, and buying power, was then tried on 6 libraries. The 20 questions were narrowed down to the following 9 questions which were mailed to 108 libraries. There were 30 respondents to the mailed questionnaire, in addition to a number of promises for late reply.

The 9 questions were:

1. From what sources did you receive your 1966 operating budget?
2. What was your cash outlay in 1966 for purchased or rented capital equipment?
3. What was this equipment? What was purchased and what rented?
4. How many capital equipment sales representatives called on you in 1966?
5. What additional capital equipment do you feel you need?
6. How much of an annual capital equipment budget would satisfy your requirements?
7. Does your library earn (by offering special services, rentals, by subscription) any part of its annual budget? How much?
8. Given the opportunity, can you think of any way your library could add to its annual income?
9. Would a federal subsidy help? How much?

The interview with the 15 additional libraries started with the 9 questions and extended beyond them for periods of one to two hours. The discussions included accounting methods, future plans and programs, opinions on specific products, general library trends, equipment salesmen, buying frustrations, buying authority, turn around time to buy, cost effectiveness of equipment, and individual opinions on what to do about the equipment problem.

The survey did not reveal any set patterns of buying between the eastern, western, northern or southern states. Neither was there a pronounced pattern in libraries supported by municipal funds, State funds, or university funds. The libraries supported by federal funds appeared to fare better. Industrial libraries ranged from very good to very poor.

There was universal agreement among libraries that more money was required for capital equipment and that federal support for the purchase of capital improvements would be welcomed. Estimates varied from a low of a few thousand dollars to $700,000 per annum. The one abstaining library said that no help was needed and that federal interference was increasing taxes.

The survey was barely satisfactory. The 28 percent overall reply to the mailed questionnaire was expected. The effect of a 28 percent reply to a random distribution was not. By the time the original mailing to 44 public libraries was reduced to 14 replies received, the data could only be interpreted from a very general viewpoint.

In addition to 14 replies from public libraries, there were 12 replies from universities and colleges, and 2 replies from special libraries. These represented a 32 percent return from public libraries, 43 percent from universities, and 9 percent from special libraries. To say that special libraries tend to respond less to this type of questionnaire would be erroneous. For example, one additional letter from a special library would have increased that statistic from a 9 percent to a 14 percent return.

The questions in the letter were difficult for librarians to understand and interpret. The questions that were asked could have been phrased better, e.g., as "yes", "no", or "don't know" replies. Not too many questions could have been asked. Comments accompanying replies gave the distinct impression that questions dealing with finances and inventory were particularly odious to the librarian and that certain words and phrases were indistinct language to the librarian.

This opinion correlates with the general inaccuracy of library statistics. Despite attempts of some groups to compile statistics on libraries and library sales, the end result is poor and unusable for studies of this type.

This study started with a survey of available library materials, reports, and annual library publications. The numbers were sifted, compiled, and correlated and resulted in no valuable product. Some interesting aspects of libraries came out of this sifting process such as the fact that the majority of public libraries exist in very small communities. This only serves to support the fact that there are a very large number of libraries in the United States, that the majority of these exist in small communities, and that this poses a problem to salesmen who must contact these libraries.

Spot checks of a number of small libraries revealed that the statistics on two of those libraries in the American Library Directory were completely inaccurate. This is not surprising when considered from the viewpoint that libraries do not conduct annual inventories, that the loss in materials in libraries is very high, and that not many people are capable of accurately estimating 10,000 or more items. Presumably, those librarians estimated the number of titles in the catalog and not the number of books on the shelf or in the hands of borrowers.

There was no way of estimating how inaccurate or accurate the statistics were. Two of these libraries had grossly inaccurate figures posted in directories. On the other hand, some libraries had remarkably accurate inventory counts and accounting data. To say that the bad and the good would tend to counteract each other was unacceptable.

This led to the mail survey and the series of interviews with librarians. For the most part the interviews were extremely helpful. In two cases the librarians were close to hostile. It is an interesting note that one of these was one of the libraries with the inaccurate American Library Directory count.

The survey served to reveal the fact that several libraries had exceptional programs. Their replies to the survey, instead of being one page letters, were complete reports showing exact disbursements and surprisingly detailed statistics not only of holdings and circulation but on inventories, equipments, and the like. In two cases their funds were all locally provided, their per capita income was well above average, and their capital equipment purchases were high.

The survey led to the opinion that a recompilation of library statistical data is necessary, that this must be preceded with the publication of a standard chart of accounts for libraries, that the survey should be developed carefully and thoroughly in order to provide meaningful data, and that the survey should be conducted periodically to gauge change in library activity.

Appendix 3

SUNNYVALE PATENT LIBRARY [1]

Service Offered:

The Sunnyvale Patent Library, a branch of the Sunnyvale (Calif.) Public Library, was opened in September 1965. It is the twenty-second patent depository, but the second on the West Coast, and the only one in which the patents are arranged by classes. The library has the following materials:

1. Complete copies of U.S. patents received each week from the Patent Office, dating from January 1962. Patents sorted according to the major classes or the Patent Office Classification system.
2. Complete set of Official Gazettes dating from 1854.
3. Other necessary indexing materials including the Manual of Classification and Index, subclass definitions on microfilm, annual indexes to patents.

Unfortunately at this time search service is not available. Reproduction and mail and telephone services are provided. A photocopier and a microfilm reader-printer are on hand for copying patents, gazettes, and viewing lists on microfilm. Charges made to support the service are 20¢ a page for copies of U.S. patents, Official Gazettes, and other references; and 25¢ per copy for reader-printer reprints of subclasses or subclass definitions on microfilm.

Telephone and mail orders are normally filled within 24 hours of receipt. Special handling for same day service is available for an additional $2.00 charge. Airmail and special deliver mail is made at cost. All mail orders carry a 25¢ handling charge.

The Library is open to the public from 1:00 pm to 5:00 pm Tuesday through Friday, and 10:00 am to 5:00 on Saturday.

[1] Information furnished by Sunnyvale Patent Library

Use Statistics

Visitors average five a day. Service by phone and mail is given to any established business, at a 1967 average of 750 pages a month. Billing is made once a month. Large electronic and chemical firms in a 100-mile radius request 50 to 100 pages a month. Requests usually come from patent departments rather than company libraries.

Financial Support

In addition to the service charge made for photocopy, and handling charges, and the furnishing of patents and indexes by the Patent Office, the Library must have support. As a branch of the public library, it is supported by taxes. The status as a branch library followed three years of effort to establish the collection as a private library under the joint support of local industry in an industrial park area. An initial contribution of $600 in 1962 enabled the collection to be assembled and housed for unattended use for nearly a year. Lacking continuity of funding, the service was suspended, although the subscription was continued and the collection held in storage pending acceptance of responsibility by the city of Sunnyvale.

Appendix 4

STANFORD UNIVERSITY
TECHNICAL INFORMATION SERVICE [1]

The Purpose of TIS

Technical Information Service is a non-academic department of the Stanford University Libraries which was organized to provide local industrial, business and research firms (other than non-profit organizations) with as much library service as possible, short of hindering the university's teaching, study and research aims.

TIS is the only agency authorized by Stanford University to use its libraries for the provision of such service. It is a non-profit organization; the charges for service are calculated to cover only the costs of staff, offices, equipment, transportation, etc., plus a small percentage for the overall maintenance costs of the library collections.

Charges for Service

1. $3.00 basic charge for photocopying library materials, plus 10¢ per photocopy sheet.
2. $4.00 basic charge for each loan of library materials.
3. 50¢ charge per package for handling and mailing.
4. $1.00 per transaction if extensive verification of incorrect references or extraordinary searching (beyond local catalogs and serial records) is required.
5. Rush service, with delivery of material within 24 hours after the request is placed, is available. Basic charges for rush service so designated are double those outlined above: where applicable, the basic charge for photocopying library materials is $6.00; for the loan of library materials, the basic charge is $8.00.

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[1] Material on Stanford TIS supplied by Fred W. Todd, Head

6. Itemized billing is sent to member firms on a monthly or a quarterly basis, as desired. Bills are payable within ten days of receipt. Member firms wishing to establish a deposit account against which charges may be applied may make such an arrangement.

Rules of Membership

1. TIS membership is not transferable. Service is available only for the internal use of the member firm. Stanford library materials obtained through TIS membership are not to be lent or otherwise made available to individuals not employed by the member firm.
2. TIS borrowing cards issued to the member firm become the responsibility of the firm, which must prevent their use by non-employees and ex-employees.
3. TIS rules governing circulation of library materials and payment for service must be observed.
4. If the foregoing rules are not observed by a member firm, membership may be terminated, and in this event all TIS borrowing cards must be returned.

Circulation Rules

1. In general, circulation of library materials to TIS member firms is always subject to the local lending rules of the individual Stanford libraries, as well as to the overall published circulation rules.
2. The following autonomous libraries may not be used by employees of member firms: Jackson Library of Business, Hoover Library, Food Research Institute Library, Law Library, and the Stanford Linear Accelerator Library. However, certain library materials may be obtained from them through the TIS office.

3. Serials are usually non-circulating to TIS member firms. Photocopies of articles in serials are obtainable upon request (by mail or by telephone) from the TIS office.

4. Monographs circulate to TIS member firms subject to local lending rules. Rules vary from library to library; questions regarding loan of materials should be referred to the TIS office.

5. Library materials on loan to TIS member firms are subject to recall when needed by members of the faculty or student body.

6. Employees of member firms must use a TIS borrowing card when charging out library materials for the use of the firm.

STANFORD UNIVERSITY TECHNICAL INFORMATION SERVICE

Year	Books Loaned	Rate	Copies Made	Rate	Total Transactions	Number of Members	Total Receipts
1961-62					3,421		$17,105
1962-63	920	$5.00	3,478	$5.00	4,398	111	21,990
1963-64	749	6.00	2,298	6.00	3,047	113 + 149 (outside area)	17,597 + 400 outside
1964-65	668	6.00/4.00	2,149	6.00/4.00+	2,817	126 + 297 (outside area)	13,775 + 600 outside
1965-66	806	4.00	3,449	3.00/10¢ p.	4,255	130 + 308 (outside area)	17,251 + 659 outside
1966-67	991	4.00	4,309	3.00/10¢ p.	5,300	132 + 295 (outside area)	19,735 + 624 outside

* These figures show only transactions paid for by industry. Important to the operation of TIS but not significant financially is the fact that service to non-profit users in the area accounts for 3 to 4 times as much work, not shown here. 32,581 photocopy prints were made for paying industry, of 107,499 total copies made in 1966-67.

Appendix 5

SUMMARY OF THE S.M.U. INDUSTRIAL INFORMATION SERVICES PROGRAM [1]

Industrial Information Services (I.I.S.) is a program for providing technical information services from the S.M.U. Science Library to the business and industrial community. The I.I.S. program offers the business community certain specialized technical information services as well as seminars on science information sources and techniques. The I.I.S. program is designed to provide "back-up" information resources and services to the large firms having their own libraries. It is also designed to provide these unique services to the small firm that cannot economically justify its own information facility or library.

I.I.S. serves any business or industrial firm needing technical or scientific information. Approximately 300 business firms are now using the I.I.S. services. These services include free use of the S.M.U. Science Library, loan or photocopy of publications from the SMU Libraries, training in special sources of information such as the various new national information centers, searching the 400,000 volumes in the SMU Libraries for the specific information needed by the firm to solve a technical problem, and providing a monthly Newsletter listing new technical publications.

I.I.S. is partially funded under the State Technical Services Act (PL 89-182). The S.T.S.A. program pays 50 percent of I.I.S. operating expense. The remaining 50 percent of expenses must be paid by local, non-government funds. The University provides the library resources and the special services to industry on either an I.I.S. membership basis or service fee basis. Memberships range from $100/year to $9,600/year, depending on the amount of service the firm anticipates needing. Each member firm is represented on an Advisory Council which recommends policy, fees, new services, and seminar topics.

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[1] This summary and following tables on IIS supplied by Miss Maryann Duggan, Director.

With the assistance of the Advisory Council, I.I.S. has developed a five-year plan for incremental improved information services. In addition to the basic information services now provided, the five-year program envisions computer searching of information tapes acquired from various national Information Centers, telecommunication tie-in with other regional information networks such as the Rice University network along the Gulf Coast and the TAGER and Inter-University Council network, facsimile transmission of hard copies of documents to industrial firms needing this quick access, and cooperative academic programs in information science and science information in conjunction with other universities in the area.

During the period July 1, 1967 to July 1, 1968, the I.I.S. operating budget is $114,000. The State will reimburse I.I.S. for $57,000 of these expenses. Income from Membership Fees and services sold is anticipated at $37,000, leaving an operating deficit of $20,000 for the twelve-month period.

SUMMARY OF SMU SCIENCE LIBRARY AND I.I.S. LOAN AND PHOTOCOPY SERVICE TO INDUSTRY FOR PAST SIX YEARS

YEAR	NUMBER OF COMPANIES	TOTAL LOANS	PHOTOCOPIES		SERVICE UNITS	INCOME**
			ARTICLES	PAGES		
1961/62	72	1,114	--	10,279	2,141*	$1,541.00
1962/63	86	1,722	--	10,531	2,775*	1,579.00
1963/64	92	2,735	--	11,474	3,921*	1,721.00
1964/65	110	2,378	1,901	13,597	4,279	2,029.00
1965/66	109	2,710	2,123	15,548	4,833	2,332.00
1966/67	104	1,981	2,136	15,091	4,117	14,745.88

* Calculated on basis of 10 pages/article=1 service unit

**Prior to 1966/67, calculated on basis of 15¢/page of photocopy and no charge for loans; 1966/67 figures and actual income from services supplied.

8/8/67

INDUSTRIAL INFORMATION SERVICES MEMBERSHIP FEE SCHEDULE

	TYPES AND COST OF MEMBERSHIP AND BENEFITS/SERVICES PROVIDED					
BENEFITS/SERVICES	I	II	III	IV	V	VI
COST OF MEMBERSHIP/12 MONTHS	$100.00	$650.00	$1,600.00	$3,200.00	$6,400.00	$9,600.00
VOTES IN ADVISORY COUNCIL	1	2	3	4	5	6
FREE ATTENDEES TO SEMINARS, ETC.	1	2	3	4	5	6
FREE I.I.S. STAFF CONSULTING, HOURS	1	2	3	6	12	18
COPIES OF I.I.S. NEWSLETTER AND NEW BOOK LISTS	2	4	6	12	24	36
FREE LOCATION OF PUBLICATIONS NOT IN SMU LIBRARIES	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT
FREE USE OF CLOSED CIRCUIT TELETYPE FOR ORDERING OF ITEMS FROM IUC LIBRARIES	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT
FREE LOAN OF SMU THESIS	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT
NASA SEARCHES AT $125.00/SEARCH	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT
NASA CURRENT AWARENESS (SDI) AT $275.00/PROFILE/YEAR	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT
SERVICE UNITS* AT $5.00/EACH	20	130	320	640	1,280	1,920

Members are entitled to the Basic Information Services at Non-Member rates as listed on the enclosed Services Fee Schedule. The cost of the services requested is deducted from the Membership Fee deposit. The Member may use any combination of these services, as needed, during the 12 month Membership Period up to the dollar value of the Type of Membership purchased. After that dollar value has been requested, additional services needed for the balance of the Membership Period will be billed on a monthly basis; or, a new Membership may be purchased extending the Membership period by 12 months from the date of purchase.

*Service Unit (loan of 1 book or photocopy of 1 article up to 10 pages........................$5.00)

FINANCIAL SUMMARY OF I.I.S. PROJECT

APRIL 1, 1966 TO AUGUST 1, 1967

INCOME:	
GIFTS	$15,000.00
MEMBERSHIP FEES	26,522.00
SERVICES TO NON-MEMBERS:	
BIB. VER.	4.00
PHOTOCOPIES	2,628.65
LOANS	218.25
SEARCHES	581.60
REFERRALS	5.00
	$44,959.50
TEXAS COORD. BOARD	30,334.11
TOTAL INCOME	$75,293.61
ACCOUNTS RECEIVABLE:	
TEXAS COORD. BOARD	9,901.54
MISCELLANEOUS	227.65
	$85,422.80
EXPENSES:	$80,471.29

Appendix 6

Columbia University Libraries

Annual Report

July 1966 - June 1967

Regional Technical Report Center

REFERENCE AND CIRCULATION REPORT 1966-1967

1. USERS

Total Requests		1,321

(a) Types of Users:

From Columbia campus	591
From other colleges	193
From industry	405
From others (Government agencies, etc)	132
Total	1,321

(b) Location of Users:

Connecticut	14
New Jersey	154
New York	1,068
Other	85
Total	1,321

(c) Type of Request:

Personal visit	537
Telephone	495
Letter	289
Total	1,321

2. CIRCULATION AND REFERENCE SERVICE

(a)	Interlibrary Loans	474	
(b)	Items reproduced	112	
(c)	Items used in report section	930	
(d)	Requests for report nos., prices, etc.	1,064	
(e)	Requests not filled	370	
	Total		2,950

Appendix 7

wesrac
WESTERN RESEARCH APPLICATION CENTER

July 28, 1967

Miss Jeanne B. North, Library Systems Analyst
Programming Services Inc.
Advanced Information Systems Division
493 Middlefield Road
Palo Alto, California 94301

Dear Miss North:

Thank you for your inquiry about our large bank of reports, innovations, and articles which have been generated or acquired through the efforts of the National Aeronautics and Space Administration. We also supplement these with searches in other areas on special problems. We wish to emphasize the broad and varied type of coverage this bank includes.

We feel that a major business problem at this time, and one which is going to get greater, is how to utilize the mass of information being developed in almost every field. The usual problem even now is not one of having too little information, it is one of having so much that few skilled individuals can take the time to evaluate it for specific answers. Further, apparently a company needs to be organized in a special way to utilize work done by someone else rather than repeat it.

The Western Research Application Center emphasizes two things: First, specific response for a company's area of interest or problem and second, convenient, prompt service. To accomplish the former, we utilize a specialist who understands the company area of interest to define it closely so that our computer search will be directly on the point. He then delivers to the requestor only abstracts of the material which specifically apply. Convenient, prompt service is provided by having on hand abstracts of all the material as well as microfilm of the full reports.

WESRAC is non-profit and operates at cost. Our Standard Plan annual commitment results in a cost of $120 for a Retrospective Search into the whole file of almost a quarter of a million reports on each area of interest. This same plan charges $350 for 12 monthly searches of new material being added to the file at the rate of about 5500 a month for those organizations which want to be kept current on the latest material being reported in a particular area of interest. Three to five times as much response results from this computer search than would come from a manual search of the same material if it were economically feasible to make such a search in your company.

It seems to me that this would be a logical adjunct to a sophisticated library service which is working effectively with the various departments and activities in a company. Incidentally there are some 200 programs available through the NASA system. Please let me know if we may explore WESRAC services with you further, and we will arrange for a personal call.

Very truly yours,

AK Oulie

A. Kendell Oulie
Director

AKO:ml
Enclosures

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION / UNIVERSITY OF SOUTHERN CALIFORNIA
LOS ANGELES, CALIFORNIA 90007
(213) 746-6133

JOINING AND SEALING DISSIMILAR MATERIALS
CORRO
Fluid Amplifi

RESEARCH APPLICATION KEY TO MODERN INDUSTRY NEEDS

Modern industrial needs require application of the latest research findings across a broad spectrum of knowledge: scientific, technical, managerial, and economic. Research application is the basic task of the Aerospace Research Applications Center (ARAC) at Indiana University.

ARAC was the first NASA-sponsored, university computerized information center in the United States. Current operations make available to private industry the bulk of unclassified, government-sponsored research in America.

Some 200,000 technical reports form the Center's information base. Each month, thousands of additional reports pour into Center offices from the National Aeronautics and Space Administration (NASA), the Department of Defense, the Department of Commerce, the Atomic Energy Commission, and other sources.

In 1965, total sales of ARAC member companies represented more than 12 percent of aggregate sales in the United States. For this business segment, the Center processed more than 14,000 technical problems.

The broad backgrounds of ARAC engineers and scientists enable them to understand and interpret the problems of industrial firms. From the beginning of a membership, these information experts maintain close, personal contact with company staff members. They assist in pinpointing and defining interest areas, design search profiles to assist location of pertinent reports, and analyze them to evaluate relevance to the stated problem. It is the high professional quality of the analyst—the individual ARAC scientist—which gives the Center its capacity to serve modern industrial needs.

RETROSPECTIVE SEARCH SERVICE

In the Retrospective Search Service, the entire information base is searched to locate reports relevant to company needs.

RSS has a problem-solving focus seeking to isolate information relevant to specific company problems, projects, and programs. Search requests are studied and prepared for computer search by an ARAC scientist or engineer specializing in the search subject.

Subjects range from broad "state of the art" efforts to specific, well-defined problem situations.

Search results are analyzed and evaluated by each specialist. Abstracts of all applicable reports are sent to the firm, with full copies of reports forwarded upon request.

The entire process is characterized by inquiry in depth and by direct interaction between the ARAC specialist and the company's staff.

COMPUTER INFORMATION SERVICE

The Computer Information Service is designed to transfer the technology of new computer program developments to member firms.

An extensive range of computer programming activities operate continuously within the group of NASA contractors. These programs usually are designed to enable broad applicability.

From these sources, and in conjunction with the Marshall Space Flight Center (MSFC), ARAC evaluates and identifies those programs which offer greatest applicability to industrial use.

A description of the programs considered most worthwhile by the Center's technical staff are sent to member firms each month. This announcement typically includes five programs and five computer-oriented reports, which suggest new and novel approaches to problem-solving.

Throughout this process, the Center's computer systems group works directly with computer experts of member firms.

SELECTIVE DISSEMINATION SERVICE

Thousands of new technical reports pour into ARAC's offices each month. These are searched by computer twice monthly to provide company R & D and other technical people with awareness of the latest scientific developments.

Each search is based on an interest profile which the company representative and the Center specialist have developed. These profiles relate to the technology and programs with which the firms are involved. Typically a company will have several profiles.

A Center expert is assigned to the interest profile and maintains close and continuous communication with the company representative handling the profile. The ARAC man analyzes computer results to assure optimum relevance to specific company interests and needs.

The profile is dynamic and is updated as the firm perceives new needs.

MARKETING INFORMATION SERVICE

Member companies receive information on the latest methods and techniques for increasing the effectiveness of marketing programs.

Staff marketing specialists continuously search literature for new developments. Their inquiries cover such subjects as pricing, consumer behavior, credit, advertising, distribution, inventory, transportation, and forecasting.

Special emphasis is given to survey methods in market research and to quantitative techniques.

Through the monthly abstracts, *New Dimensions in Marketing Technology*, outstanding articles are reported to member firms for help in problem-solving and in identifying new marketing opportunities. Full articles are supplied upon request, and additional, personal assistance is provided as needed.

INDUSTRIAL APPLICATIONS SERVICE

Ten abstracts of technical reports with industrial application potential are forwarded to member companies each week.

The purpose of IAS is to generate new ideas . . . to expose technical people to a broad cross-section of technology where industrial application has been identified by NASA and ARAC.

NASA's Technology Utilization Division has a program to identify, appraise, and disseminate space technology which promises commercial application. From this and other information resources, ARAC scientists form the inputs to IAS.

Full reports are sent upon request. If needed, additional information relative to questions not covered in the report is supplied from the Center's information base, its staff, the I.U. faculty, or through its contacts with appropriate NASA regional centers.

SPECIAL & EXPERIMENTAL PROGRAMS

Experimental programs constantly attempt to improve existing services and to identify and develop new service areas.

To fill the technical information needs of small businesses, small business meetings are conducted at designated locations in the Midwest. These sessions give technical personnel of small firms the opportunity to discuss specific problems with ARAC specialists.

The Center co-sponsors semi-annual executive development conferences. In addition, special seminars are organized for member companies, with activities tailored to fit exact problems being considered.

ARAC makes a special effort to handle technical needs not provided by the Center's information base. Such assistance often involves contacting the appropriate government scientist or arranging for the firm to meet with the appropriate member of the I.U. science faculty.

Appendix 8

MAJOR FEDERAL EDUCATION AND LIBRARY PROGRAMS

Funds Which May Be Spent on Books

Program	Spending Units	Types of Books Eligible	Actual Appropriations 1967
Library Services & Construction Act, Title I – Services (P.L. 89-511)	Public Libraries	All types of library books & materials	$ 35 million
Title IIA of Higher Education Act of 1965	College and University Libraries	All types of library books and published materials – foreign and domestic	$ 25 million
Medical Libraries Assistance Act of 1965, Section 397	Nonprofit medical libraries	All types of material used in medical libraries	$ 2.7 million
Title III of NDEA as amended in 1966.	Local public school systems	Books other than textbooks for elementary and secondary school use in fields of science, mathematics, foreign languages, English, reading, history, geography, civics, economics and industrial arts	$ 79.2 million
Title I of Elementary and Secondary Education Act of 1965, as amended in 1966.	Local public school systems	May be spent for any instructional purpose. No limitation on purchase of instructional materials but must benefit children of low-income families.	$1,059.1 million
Title II of Elementary and Secondary Education Act of 1965, as amended in 1966.	Local public school systems	Elementary and secondary textbooks, library books and materials, audio-visual materials	$ 105 million
Title III of Elementary and Secondary Education Act of 1965, as amended in 1966.	Local public agencies cooperating	No limitation on objects of expenditure	$ 145 million

AUG 7 1967

Appendix 9

NORTH CAROLINA STATE UNIVERSITY | AT RALEIGH

THE D. H. HILL LIBRARY
Box 5007 Zip 27607

August 3, 1967

Miss Jeanne B. North, Library Systems Analyst
Project Leader, Libraries and Industry Study
Programming Services, Inc.
Advanced Information Systems Division
493 Middlefield Road
Palo Alto, California 94301

Dear Miss North:

In response to your letter of August 1 requesting information on our Technical Information Center, I am enclosing a copy of our annual report for the past fiscal year. This will no doubt answer most of your questions. I do wish to make several additional comments however.

The UNC Business Information Center you referred to has not yet been established. It does not appear likely that it ever will in view of the strict interpretation of the State Technical Services Act to include only scientific and technical services to industry. We do have good relations with other agencies, particularly the U. S. Department of Commerce Field Office in Greensboro and our N. C. Department of Conservation and Development.

I believe services such as we offer are most effective when coordinated closely with a field staff of trained engineers who can assist small industry in the interpretation and application of information. We have an Industrial Extension Service field staff here in North Carolina. We work closely together and find the relationship to be of great mutual benefit in serving industry.

Public information and publicity programs are very important in creating an awareness of services and encouraging their use. More funds should be appropriated for such work than most services like ours have available.

Business and marketing information services should be provided together with the scientific and technical services. It doesn't do a businessman much good to introduce a new product or improve his operations if he can't sell the product or justify economically the new process. We get many inquiries relating to marketing information in particular.

Current awareness services have not been requested though offered. Most of our work has been in providing reference, referral service, and in the preparation of bibliographies.

I trust this information is of some value to you. If you have further questions, please do not hesitate to write.

Sincerely,

William Lowe

William C. Lowe
Director
Technical Information Center

WCL:eb

enc.

UNIVERSITY OF COLORADO LIBRARIES

BOULDER, COLORADO 80302

AUG 25 1967

August 21, 1967

Miss Jeanne B. North
Advanced Information Systems Division
Programming Services Inc.
493 Middlefield Road
Palo Alto, California 94301

Dear Miss North:

Although there have been a few letters and fliers, the enclosed brochure is the major publicity effort by the new Colorado Technical Reference Center. The planning began about a year and a half ago under the initial impetuous supplied by the Director of University-Industry Relations. Librarians were brought into the picture very early and the Director of Libraries with the Business/Economics Librarian helped develop the initial budget and the general plan of operation.

The main financial support is, of course as you point out, from STSA money. The University supplied certain matching funds. Unfortunately, for the state program, the State Coordinator's Office was not funded by any matching funds from the State of Colorato. Nevertheless, it seems generally agreed that if further financial barriers are met the reference center element of the state program will continue to receive any available funds on a top priority basis.

We have, as you will read in the brochure, established a fee schedule. This is a very modest schedule and will be revised I'm sure. We would hope that these fees would provide a major source of revenue which might supplant our need for any federal or state funds in the future. This, of course, is the ideal and only time can tell whether industry will support up at the necessary level.

We do plan to serve as a clearing house for all requests from industry. We will try to provide a complete range of services. We think that there is probably an educational job to be done here to avoid demands for service which are probably outside of the philosophy of the State Technical Services Act. By this I mean we would hope to suggest to users that certain types of service can best be offered by the local Public Library or a nearby institution. We will try to encourage businessmen to take full advantage of all available resources throughout the state. We think that this might even increase the role of other institutions, both public and academic, in serving the business and industrial needs of the State of Colorado.

The University of Colorado Libraries are also established as a Technical Reports Center by the Federal Government. These reports are housed, of course, in our Government Documents Library and we will plan to make use of them as required. However, all of the publicity is currently directed toward service through the Technical Reference Center, placing the Report Center in a supporting capacity.

I hope this information will be of help to you.

Sincerely yours,

Leo W. Cabell
Assistant Director for Public Services

LWC:jo

enc.
cc: Mrs. Marjorie Broward

COLORADO TECHNICAL REFERENCE CENTER

The Colorado Technical Reference Center was established under the State Technical Services Act of 1965 to provide a coordinated service for the collection and dissemination of scientific and technical information to Colorado industrial firms. This service is designed to stimulate "technology transfer"—the utilization of government and industry-sponsored research in solving production problems or in the development of new products or services by Colorado companies. The Center is staffed and equipped to respond immediately to information requests and as an operating principle will provide service on a "same-day" basis.

Services Provided by the Center:

QUICK REFERENCE SERVICE:

Statistics, specific facts, addresses, or other data can be provided upon request by letter or by telephone.

LOAN AND PHOTOCOPY SERVICE:

Monographs and texts not currently in use by University of Colorado faculty or students may be borrowed by any firm. Information from journals and reference books will be provided in photocopy form, subject to legal or copyright restrictions.

LITERATURE SEARCHING SERVICE:

The professional staff of the Center will search the published literature for information on a specific subject and provide the results as a bibliographic listing, as selected abstracts, or as full copies. Either retrospective or current awareness searches may be requested.

REFERRAL SERVICE:

Materials not available on the University campus will be obtained through cooperative effort with the Bibliographic Center for Research in Denver.

Schedule of Fees:

TRANSACTION SERVICE FEE:	2.50
PHOTOCOPY OF PUBLICATION:	
.15	per page for xerox copy
.25	per page for copy from microfilm or microfiche
3.00	minimum charge for 60 frames or less of microfilm copies in 35mm size, with charge of .05 per each additional frame.
LITERATURE SEARCHES:	8.00 per hour

Postage and telephone calls required to complete transaction will be additional.

How to Request Service:

Requests for service may be made by telephone or by mail. Calling (303) 447-0724 will give you access to a 24-hour recorder-answering telephone to facilitate evening and weekend calls when staff are not available. All requests for information will be confidential.

For further information about any of the services of the Center or for assistance with the needs of your firm please call or write:

Mrs. Marjorie Broward, Director
Colorado Technical Reference Center

Current Information

Periodically the Center will be issuing a newsletter with information on new books and journals, new research, and programs to acquaint firms with technical information services available in specific fields. If you wish to have your firm or organization receive these publications, please fill out and return the form below.

Return to:

Colorado Technical
Reference Center

Norlin Library—Room 248
University of Colorado
Boulder, Colorado 80302

NAME: ____________________

POSITION: ____________________

FIRM: ____________________

ADDRESS: ____________________

CITY: ____________ STATE: ____________ ZIP CODE: ______

(News Release, Fall 1966)

Regional Information Exchange to be Formed on the Rice University Campus

The Fondren Library has begun implementing a program which will establish, on January 1, 1967, a Regional Information and Communication Exchange (R.I.C.E.) on the Rice University campus. At the heart of the R.I.C.E. are teletype facilities which will link up to eighteen college and university libraries, encompassing all of the Texas Gulf Coast and extending to Lake Charles, Louisiana and Monterrey, Mexico.

The purpose of this linkage is to support business, commerce and industry with the information resources of the entire region and to provide conveniently located terminals which can be utilized to gain access to the Exchange from distant points.

Business, commercial and industrial firms with existing teletype facilities will be able to utilize those facilities to transmit information requests to, and receive transmitted responses from, the Exchange directly. Firms without teletype facilities will be able to access the R.I.C.E through the nearest academic terminal of the Exchange or will be advised by Exchange staff concerning suitable alternatives.

Utilization of teletype for information transfer is the first feature of this new approach to library service. The reliance upon modern technology is extended to the services being offered by the R.I.C.E.

In addition to the remote access and response feature of this system, the Exchange will also provide additional services which heretofore have not been available locally and/or on a regional basis. These services include: location searching throughout all academic libraries in the network, answering service for specific reference questions, bibliographic compilation, machine literature-searching, library processing assistance and inter-regional referral services. Standard interlibrary-loan agreements and policies will be continued and copy production of restricted-loan material will be continued at a lower cost level.

Such services are expensive and despite partial support which is expected from the State Technical Services Act of 1965 the R.I.C.E cannot function without financial support from the business, commercial and industrial community of the region. To acquire this support five levels of service are being offered, ranging from a one-time fee to an annual membership fee of $5,000. Full details on the offered services, fee charges and membership may be obtained by writing Mr. Richard L. O'Keeffe, Director, Regional Information and Communication Exchange, The Fondren Library, Rice University, Houston, Texas 77001.

OE 6000 (REV. 9-66)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION

ERIC REPORT RESUME

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TITLE

LIBRARIES AND INDUSTRY: BACKGROUND STUDY FOR USE BY THE NATIONAL ADVISORY COMMISSION ON LIBRARIES

PERSONAL AUTHOR(S)

J. North, M. West, J. Ferguson, A. Raphael, T. Mayeda, C. Bourne

INSTITUTION (SOURCE)

Programming Services, Inc., Palo Alto, Calif., Advanced Information Systems Division

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ABSTRACT

The objective of the study was to analyze all operating factors in the relationship between libraries and industry. Factors were identified as the relationship between all types of libraries and the publishing industry, libraries and suppliers of furniture and equipment for libraries, libraries and their business and industrial users, business and industry as support for libraries, and support to libraries from government as a factor in the growth of libraries and their projected relations with industry. Conclusions reached were used as the basis for nine recommendations.